



# EXPLORATION OF CULINARY AND HOSPITALITY

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# Overview

Although there has been discussion in the past pertaining to culinary and hospitality at Yavapai College (YC), a feasibility study for possible design has not occurred. As we look at potential new programs that have the capacity to link with current programs, put people to work and help drive local economies, culinary and hospitality education has gained some interest. This report outlines research conducted to explore these program areas and make recommendations based on the findings.

In the initial phase, Yavapai College gathered data relevant to determining the feasibility of a culinary and/or hospitality program. The data included county, Arizona and national statistics of jobs and career opportunities, wage data, potential costs of program start-up, operating budget and student market. Yavapai College contracted with the Hanover Group to provide a comprehensive analysis of need and opportunities, not only for culinary, but for hospitality management as well. In addition to the research conducted by the Hanover Group, Yavapai College's Regional Economic Development Center conducted an economic analysis of potential culinary program demand by surveying local restaurants and school districts to determine local needs.

As part of this process, Yavapai College also identified successful programs for site visits that had both culinary and hospitality programs. The intent of these two site visits was to gather relevant data pertaining to major areas associated with potential projects, including curriculum, facilities, personnel, funding, student population, partnerships, and placement. Programs such as culinary can be very expensive to start and maintain. Add to this the challenge of enrollment sustainability and it becomes essential as much information as possible is gathered.

## **Site Visit #1**

### **Culinary Institute of Charleston**

Located in Charleston, South Carolina, this area has a robust tourism and food cuisine industry. The program is part of Trident Technical College and currently enrolls more than 1500 students in their culinary and hospitality programs.

Students-1100 students are enrolled in the culinary program with another 250 in baking and pastry. The average age of their students is 28, and they have a 70 percent completion rate. This number increases as students move into their second year of the program. Placement for their students is 100 percent. Currently, the school cannot meet the placement demand. Classes are limited to 16 students to provide an adequate student-teacher ratio and one piece of equipment for every two students.

Program-The culinary program consists of over eight certificates, many of which are stackable into three associate degrees: Culinary Arts (70 credit hours), Culinary Arts: Baking and Pastry (69 credit hours), and Sports and Health Nutrition (69 credit hours). The program is accredited by the American Culinary Federation and has just begun articulations with area high schools to create pathways. Internships or practicums are required and the program utilizes its student pool to run all teaching facilities throughout the curriculum. The cost of the program is approximately \$4000 a semester for classes and additional fees depending on the class. There are no pathways to four-year institutions; and they have found it difficult to articulate student credentials and credits. Articulation with a four-year institution is not seen as a requirement for employment. The Hospitality and Tourism Management associate degree consists of 69 credit hours. The associate program is approximately \$3000 a semester. The program also includes shorter certificates that are stackable into the associate's degree. Certificates include, Event Management (24 credit hours), Advanced Beverage Service Management (18 credit hours), Food and Beverage Operations (18 credit hours), and Hotel Operations (18 credit hours). These certificates are around 8 months in length and between \$3000-\$4000 to complete.

Funding-14 percent of the school's budget is allocated from the state. The state provides additional funding for students through their lottery system, which will pay up to \$1,100

per semester per student for tuition. The program is subsidized, but how much per credit hour is not known. Costs vary and the program does not have a hard number on cost per student credit hour.

Financials- Exact costs of the program are unknown; however, the dean did provide me with a report that shows yearly program cost for salaries and supplies. The report shows hospitality accounts for approximately \$240,000 in salaries for four faculty members and does not have a separate budget.

Support- Institutional support is strong; and there is a strong relationship with the city, restaurants and businesses. The community contributes not only money, but resources as well. The school also has relationships with vendors who donate product. Many of these relationships did not develop until the program grew to its current numbers.

Facilities- The Culinary Institute of Charleston has two campuses on which they teach culinary. One is at the main campus and the other is at a downtown location. The program needed to expand to meet current and future demands and the main campus did not have the facilities. There is some overlap of curriculum, but each facility also has classes that are unique to that site.

The program has three types of kitchens - production kitchens, teaching kitchens, baking and pastry kitchens. The teaching, baking, and pastry kitchens utilize the space for lecture as well as equipment and hands-on laboratories. The production kitchens are used as practicums for the program and for the hospitality/dining services provided through the program. Each kitchen is approximately 900-1200 sq. ft. Additional spaces include a mixology lab, dining areas/restaurant, and functioning bar. The dean for the institute has provided me with plans for the Palmer Campus, located closer to downtown Charleston.

**Site Visit #2**  
College of DuPage

Located in a suburb of Chicago, the College of DuPage is approximately three times the size of Yavapai College, and has just completed a 30 million dollar culinary and hospitality building.

Students-800 students are enrolled in the program, which includes those in culinary, baking/pastry, and hospitality. They run sections both in the morning and at night. Student breakdown is 60 percent full-time and 40 percent part-time.

Program-DuPage has stackable certificates within the curriculum. The degree includes 42-44 core classes and 18-22 general education credits. The state mandates a minimum of 65 credit hours for an associate degree. The program is accredited through the American Culinary Federation and current staff is 6 full-time instructors and 40 adjunct or part-time. The program has a placement rate of 93-95 percent for graduates and a 20 percent dropout rate. Due to its proximity to Chicago, there is an abundance of opportunities for student employment and a population to sustain program enrollments. The program is also fed by four high schools that have articulation agreements with the college.

The institution provides primary funding. Students have access to Federal financial aid in the form of grants or loans.

Financials-The program, which includes culinary and hospitality, has an approximate operating budget of \$2,000,000.00 per year. In conversations with the president of the college and the director, this program is heavily subsidized, but they did not have a specific breakdown of subsidized cost per student credit hour. The tuition cost per credit hour to the student is \$144.00 with a \$200.00 lab fee per class.

Support- Institutional support is strong at both the middle and executive level. The program also has support from various supply industries and surrounding hospitality and restaurant businesses.

Facilities-The building that houses the culinary and hospitality program is silver LEED certified and includes five culinary kitchens, two baking kitchens, a full bar, 130 capacity

fine dining restaurant, and eight hotel rooms. The program operates on a 16 student to one instructor ratio and they double up on each cooking station. The teaching kitchens are similar to those of the Charleston Culinary Institute (between 1200-1400 square feet) with eight individual cooking stations per kitchen. The program also has a 100-seat auditorium with a demonstration kitchen primarily used for introduction classes. A third party leases the restaurant, but works closely with the college, foundation, and third parties on hosting and catering events.

### **Implications for Yavapai College**

In order to create a comprehensive culinary institute for Yavapai College, the program will need to have at least three separate kitchens, each approximately 1000-1400 square feet in size. Although it is feasible to use these spaces for lecture, the addition of lecture space, a mixology lab and dining/restaurant area should be considered. In addition to classroom and laboratory space, there will need to be faculty and/or administrative offices. The total area will depend on the specific facets of the program.

### **Assumptions**

#### **Facilities**

Comprehensive culinary programs consist of three separate components. The first is a production kitchen modeled after a restaurant and provides practicum experience with operating a working kitchen. This kitchen is usually attached to a dining facility utilized as part of a hospitality program.

The second kitchen is a teaching kitchen comprised of individual units (stovetop, burners, deep fryers, etc.) where students learn by doing. This setup is usually two students per unit. Most schools cap their enrollment in these spaces at 16 with eight separate units (two students per unit). The third is a bakery kitchen. This space consists of large-scale mixers, ovens, tables, and assorted tabletop equipment.

In the culinary schools explored, the lab space doubles as lecture space with tables, chairs, overhead projection units and a screen. It should be noted most culinary schools also have an additional temperature-controlled chocolate lab.

Based on analysis of existing culinary institutes, the cost to build and equip a culinary program is approximately \$500.00 per sq. ft. To build a facility with three kitchens, storage, and office space requires approximately 4,000 sq. ft. Cost for this type of facility would be around \$2,000,000. Funding would most likely include a capital campaign in conjunction with the Yavapai College Foundation.

### **Curriculum**

Curriculum varies among institutions and, in some cases, is contingent on accreditation through the American Culinary Federation. A Yavapai College program would not be able to apply for accreditation until there are program graduates. The number of core credit hours for culinary programs varies from 40 to 47. This is in addition to the general education block consisting of 20 credits. Total credits for an Associate of Applied Science in Culinary Arts would be between 60 and 67. However, certificate programs have much more flexibility in the number of credit hours. Transfer to a 4-year institution is possible if the curriculum is aligned and faculty meets credentialing criteria for the 4-year institution.

## **Need Analysis**

According to Yavapai College's Regional Economic Development Center (REDC), the food service industry showed growth for 2013, though wages remained low. The Accommodation and Food Services sector in 2013 employed 6,903 people (mostly in the food sector), with an average annual wage of \$19,371 or approximately \$9.71 per hour. The occupation of "Combined Food Preparation and Serving Workers, Including Fast Food" created 36 new jobs from 2012 to 2013. The industry of "Full-Service Restaurants" created 52 new jobs from 2012 to 2013. Average annual openings in this industry total 331 across the county. Overall, the Accommodation and Food Services sector generated \$317,523,752 in 2012, with most being imported dollars from tourism. This constitutes 5 percent of the gross regional product in Yavapai County.

The REDC distributed two surveys during December 2013 and January 2014. The first survey addressed the needs of the private sector, and sought to determine what the demand was for skilled culinary workers. Restaurateurs and resorts across the county were asked questions pertaining to their rate of turnover and hiring rate per annum, classification and wages of culinary staff, and willingness to pay for skilled workers. Surveys were distributed through the Chambers of Commerce in Prescott, Sedona, and Cottonwood and individual interviews with Enchantment Resort and Sedona Hilton. In total, there was an 11% response rate (which is typical.)

Although fewer respondents identified a high rate of turnover as an issue, 80% of respondents stated they would be willing to increase their pay range for a higher skilled worker. The primary skill sets requested may be considered basic culinary skills and soft skills. The second survey addressed the demand for culinary educational services form high school students. Students were asked if they were planning to attend college, whether or not they would enroll in a culinary program, and if they were interested in starting their own business, (This was included to determine the need for entrepreneurial education within a culinary program). The survey was distributed through the Valley Academy for Career and Technical Education (VACTE) to Sedona Red Rock High School, Camp Verde High School, and Mingus High School with 100% response rate for juniors and seniors.



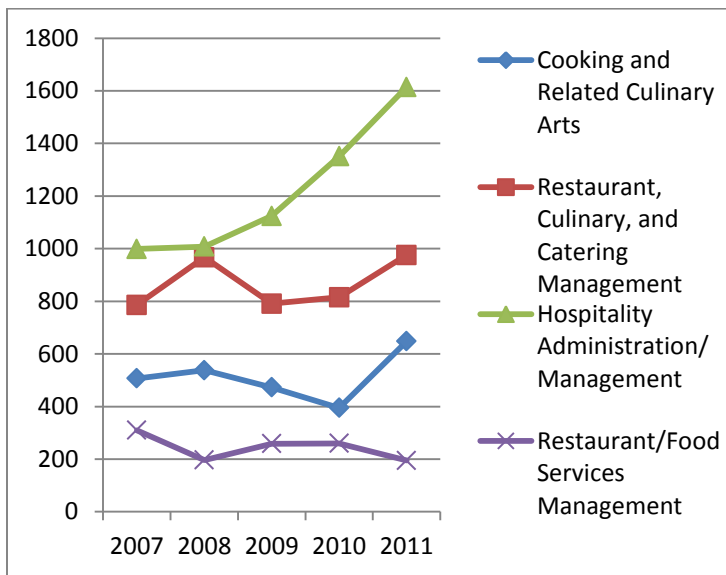
Thirty one percent of students responded they were planning to attend Yavapai College and 24 percent indicated they would enroll in a culinary program if offered.

The Valley Academy for Career and Technology Education program is not extensive; however, the program is held at Camp Verde High School with an approximate 700 sq. ft. teaching kitchen and has a total enrollment of 96 students in five sections for the 2013-2014 school year.

The Mountain Institute Joint Technical Education District has a more intense program than VACTE. Classes are held through a central program operated out of Fudruckers in Prescott Valley and a newly remodeled satellite campus at Chino Valley High School. The remodel included a 1,800 sq. ft. commercial kitchen and 2,000 sq. ft. instructional dining facility. Total enrollment for 2013-2014 school year is 90-100 for both campuses with exponentially increasing enrollment for next fall. Dual enrollment or concurrent enrollment is in high demand for this program if only for the introductory class.

In order to better depict the demand for culinary and hospitality programs in the Southwest, Hanover Group reviewed the completions of associate degrees for programs in Arizona and its surrounding states. These states included California, Nevada, New Mexico, Utah, and Colorado. Note Hanover's analysis places an emphasis on examining two-year programs in order to maintain the maximum relevance to YC's prospective programs. The completions data collected and presented in the next section demonstrate regional and state trends for associate degrees only. The information provided next was taken directly from the Hanover report and from the Integrated Postsecondary Education Data System (IPEDS).

**Figure 1: Completions of Associate Degrees in Programs Related to Culinary Arts and Hospitality Management, 2007– 2011**



Source: Integrated Postsecondary Education Data System (IPEDS)

A look at popular programs under culinary arts and hospitality management reveals a stable demand for degrees in related fields. While the classification for *Restaurant Culinary and Catering* displayed only minor movement from 2007 to 2011, the *Cooking and Related Culinary Arts* program experienced particularly strong growth from 2009 to 2011 (see Figure 1).

The overall data for the region, presented in Figure 1.5, revealed a small, yet very inconsistent decrease in program completions related to culinary arts programs. The data indicate high growth rates of *Baking and Pastry Arts* as well as *Restaurant, Culinary and Catering Management* offset by a sharp decrease in *Culinary Arts/Chef Training* regionally. On the other hand, the overall completions for hospitality-related programs in the region experienced a high growth of 26.7 percent, although demands for programs related to *Tourism and Travel Services Management, Hotel/Motel Administration/Management, and Restaurant/Food Services Management* were all on the decline.

In addition, compared to the national data collected noted in the previous section, regional data show Arizona and its surrounding states may have more room for growth in the hospitality field, especially those related to hospitality administration and management in general. Meanwhile, since all but one culinary program displayed different degrees of growth over the period examined, a combined program of culinary and hospitality could be a good prospect in this region.

**Figure 1.5: Regional Completions of Associate Degrees in Fields Related to Culinary Arts and Hospitality Management, 2007–2011**

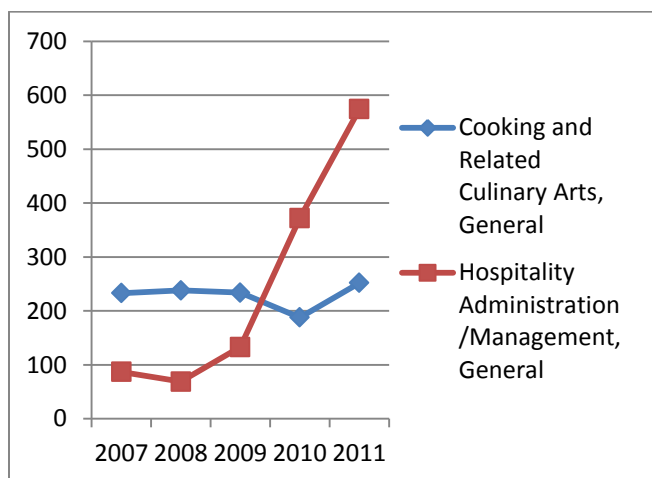
CIP CODE	ACADEMIC PROGRAM	2007	2008	2009	2010	2011	CAGR	AVERAGE ANNUAL CHANGE	STANDARD DEVIATION OF ANNUAL CHANGES
12.0500	<i>Cooking and Related Culinary Arts, General</i>	233	238	234	188	252	2.0%	4.8	39
12.0501	<i>Baking and Pastry Arts/Baker/Pastry Chef</i>	109	152	172	216	530	48.5%	105.3	121
12.0503	<i>Culinary Arts/Chef Training</i>	3,007	2,925	1,957	2,089	2,183	-7.7%	-206	447
12.0504	<i>Restaurant, Culinary, and Catering Management/Manager</i>	100	97	80	73	188	17.1%	22	54
<b>Culinary Total</b>		<b>3,449</b>	<b>3,412</b>	<b>2,443</b>	<b>2,566</b>	<b>3,153</b>	<b>-2.2%</b>	<b>-74</b>	<b>565</b>
52.0901	<i>Hospitality Administration/Management, General</i>	87	69	133	372	574	60.2%	121.8	104
52.0903	<i>Tourism and Travel Services Management</i>	46	43	36	24	13	-27.1%	-8.3	4
52.0904	<i>Hotel/Motel Administration/Management</i>	100	126	104	56	44	-18.6	-14	27
52.0905	<i>Restaurant/Food Services Management</i>	15	12	88	63	8	-14.5	-1.8	49
<b>Hospitality Total</b>		<b>248</b>	<b>250</b>	<b>361</b>	<b>515</b>	<b>639</b>	<b>26.7%</b>	<b>97.8</b>	<b>57</b>
<b>Grand Total</b>		<b>3,697</b>	<b>3,662</b>	<b>2,804</b>	<b>3,081</b>	<b>3,792</b>	<b>0.6%</b>	<b>23.8</b>	<b>574</b>

Source: IPEDS

A parallel examination of culinary and hospitality programs points to similar completion trends over the period examined. As demonstrated in Figure 1.6, *Hospitality Administration/Management* has experienced significantly high growth from 2009 to

2011, partially contributing to a recovering economy regionally, while *Cooking and Related Culinary Arts, General* remained somewhat steady over the five-year period. The growth trends for culinary-related programs and all programs selected demonstrate almost parallel movement, which indicate hospitality programs' low degree of influence in regional completions.

**Figure 1.6: Comparison of Associate Degrees in Culinary Arts and Hospitality Administration, 2007–2011**



Source: IPEDS

**Figure 1.7: Completions of Associate Degrees in Related Fields to Culinary Arts and Hospitality Management (Breakdown by State), 2007–2011**

CIP CODE	ACADEMIC PROGRAM	2007	2008	2009	2010	2011	CAGR	AVERAGE ANNUAL CHANGE	STANDARD DEVIATION OF ANNUAL CHANGES
<b>ARIZONA</b>									
12.0501	<i>Baking and Pastry Arts/Baker/Pastry Chef</i>	67	82	56	59	99	10.3%	8	24
12.0503	<i>Culinary Arts/Chef Training</i>	537	492	285	340	296	-13.8%	-60.3	94
12.0504	<i>Restaurant, Culinary, and Catering Management/Manager</i>	49	33	9	11	42	-3.8%	-1.8	21
52.0901	<i>Hospitality Administration/Management, General</i>	17	13	17	203	429	124.1%	103	104

CIP CODE	ACADEMIC PROGRAM	2007	2008	2009	2010	2011	CAGR	AVERAGE ANNUAL CHANGE	STANDARD DEVIATION OF ANNUAL CHANGES
52.0904	<i>Hotel/Motel Administration/Management</i>	21	18	21	23	20	-1.2%	-0.3	3
52.0905	<i>Restaurant/Food Services Management</i>	2	2	27	19	5	25.7%	0.8	15
<b>Total</b>		<b>693</b>	<b>640</b>	<b>415</b>	<b>655</b>	<b>891</b>	<b>6.5%</b>	<b>49.5</b>	<b>198</b>

Source: IPEDS

### Arizona Completions Trends by Institution

In order to gain a comprehensive overview of the educational landscape for culinary and hospitality programs in Arizona, Hanover Group prepared a breakdown of completions, shown above in Figure 1.7.

Trends arising from the completions data of culinary and hospitality programs in Arizona are aligned with national and regional data. Figure 1.8 breaks down completions at the institutional level and outlines demand trends among the identified institutions. While the *Culinary Arts/Chef Training* is the most popular program field among higher education institutions, the highest growth appeared in the field of *Hospitality Administration/Management, General*. However, the low level of completions for hospitality-related programs infers many educational institutions are still testing out their associate programs. According to IPEDS data, institutions in Arizona that report programs in both culinary arts and hospitality management include Estrella Mountain Community College, Scottsdale Community College, and Pima Community College.

**Figure 1.8: Completions in Associate Programs Related to Culinary Arts and Hospitality Management in Arizona (Breakdown by Institution), 2007–2011**

PROGRAMS	2007	2008	2009	2010	2011	CAGR	AVERAGE ANNUAL CHANGE	STANDARD DEVIATION OF ANNUAL CHANGES
<b>Baking and Pastry Arts/Baker/Pastry Chef (CIP 12.0501)</b>								
<i>Le Cordon Bleu College of Culinary Arts-Scottsdale</i>	67	82	56	49	69	0.7%	0.5	18
<i>The Art Institute of Phoenix</i>	--	--	--	9	23	155.6%	--	--
<i>The Art Institute of Tucson</i>	--	0	0	1	7	600%	--	--
<b>Total</b>	<b>67</b>	<b>82</b>	<b>56</b>	<b>59</b>	<b>99</b>	<b>10.3%</b>	<b>8</b>	<b>24</b>
<b>Culinary Arts/Chef Training (CIP 12.0503)</b>								
<i>Cochise College</i>	2	2	2	4	6	31.6%	1	1
<i>Estrella Mountain Community College</i>	4	8	9	8	4	0	0	3
<i>Le Cordon Bleu College of Culinary Arts-Scottsdale</i>	480	438	236	276	216	-18.1%	-66	87
<i>Mesa Community College</i>	--	--	1	2	3	73.2%	1	0
<i>Mohave Community College</i>	--	1	2	5	4	58.0%	1	2
<i>Phoenix College</i>	4	8	4	7	3	-6.9%	-0.3	4
<i>Scottsdale Community College</i>	13	11	16	17	18	8.5%	1.3	2
<i>The Art Institute of Phoenix</i>	34	24	15	17	32	-1.5%	-0.5	10
<i>The Art Institute of Tucson</i>	--	0	0	4	10	150%	3.3	2
<b>Total</b>	<b>537</b>	<b>492</b>	<b>285</b>	<b>340</b>	<b>296</b>	<b>-13.8%</b>	<b>-60.3</b>	<b>94</b>
<b>Restaurant, Culinary, and Catering Management/Manager (CIP 12.0504)</b>								
<i>Le Cordon Bleu College of Culinary Arts-Scottsdale</i>	42	22	--	--	19	--	--	--
<i>Pima Community College</i>	7	11	9	11	23	34.6%	4	5
<b>Total</b>	<b>49</b>	<b>33</b>	<b>9</b>	<b>11</b>	<b>42</b>	<b>-3.8%</b>	<b>-1.8</b>	<b>21</b>
<b>Hospitality Administration/Management, General (CIP 52.0901)</b>								
<i>Coconino Community College</i>	2	3	1	4	3	10.7%	0.3	2

PROGRAMS	2007	2008	2009	2010	2011	CAGR	AVERAGE ANNUAL CHANGE	STANDARD DEVIATION OF ANNUAL CHANGES
<i>Pima Community College</i>	13	10	8	9	10	-6.3%	-0.8	2
<i>University of Phoenix-Online Campus</i>	--	--	8	188	415	620.2%	203.5	24
<b>Total</b>	<b>15</b>	<b>13</b>	<b>17</b>	<b>201</b>	<b>428</b>	<b>131.1%</b>	<b>103.3</b>	<b>103</b>
<b>Hotel/Motel Administration/Management (CIP 52.0904)</b>								
<i>Central Arizona College</i>	3	3	--	1	0	--	--	--
<i>Estrella Mountain Community College</i>	2	2	0	0	0	--	--	--
<i>Scottsdale Community College</i>	16	13	21	22	20	5.7%	1	4
<b>Total</b>	<b>21</b>	<b>18</b>	<b>21</b>	<b>23</b>	<b>40</b>	<b>-1.2%</b>	<b>-0.3</b>	<b>3</b>
<b>Restaurant/Food Services Management (CIP 52.0905)</b>								
<i>Le Cordon Bleu College of Culinary Arts-Scottsdale</i>	--	--	19	14	--	--	--	--
<i>Scottsdale Community College</i>	2	2	8	5	5	25.7%	0.8	3
<b>Total</b>	<b>2</b>	<b>2</b>	<b>27</b>	<b>19</b>	<b>5</b>	<b>25.7%</b>	<b>0.8</b>	<b>15</b>

Source: IPEDS

National, regional, and statewide completions data indicate an increasing demand for associate degrees in culinary arts and hospitality management, mostly reflected through the upward trends for programs related to *Baking and Pastry Arts* and *Restaurant, Culinary, and Catering Management* in the field of culinary arts and *Hospitality Administration or Management* in the field of hospitality management. Hospitality education is relatively new; however, the high growth rate of the classification *Hospitality Administration or Management* from 2007 to 2011 (124.1 percent in Arizona compared to 12.7 percent nationally) exhibits a strong, emerging demand from students. Nevertheless, we should bear in mind the future prospect of an associate program in culinary arts and/or hospitality is still far from certain due to high volatility in growth displayed for related programs.

## Arizona Employment Projections

Figure 1.9 displays statewide long-term projections for the occupations identified above in figure 1.7. The Arizona Department of Administration’s employment projection data largely reflect broader regional as well as national trends. In Arizona, these relevant occupations are projected to expand at an overall rate of 21.9 percent from 2010 to 2020. The fastest growing occupation is *Cooks, Restaurant*, for which demand is expected to increase by 28.9 percent over the projection period. Even the slowest growing occupations in the state, *Food Service Managers* and *Bakers*, are expected to expand at rates over 10 percent in coming years. The encouraging projections infer Arizona will remain a promising state for culinary and hospitality-related occupations.

**Figure 1.9: Arizona Occupational Projections for Careers  
Related to Culinary Arts and Hospitality Management, 2010–2020**

2010 NATIONAL EMPLOYMENT MATRIX TITLE AND CODE		EMPLOYMENT NUMBER		CHANGE, 2010-20		AVERAGE ANNUAL OPENINGS DUE TO GROWTH AND REPLACEMENT NEEDS, 2010-20
		2010	2020	No.	%	
<b>Chefs and Head Cooks</b>	<b>35- 1011</b>	2,881	3,245	364	12.6	88
<b>First-Line Supervisors of Food Preparation and Serving Workers</b>	<b>35- 1012</b>	15,085	19,125	4,040	26.8	724
<b>Cooks, Institution and Cafeteria</b>	<b>35- 2012</b>	5,046	5,749	703	13.9	178
<b>Cooks, Restaurant</b>	<b>35- 2014</b>	18,927	24,401	5,474	28.9	950
<b>Bakers</b>	<b>51- 3011</b>	3,106	3,445	339	10.9	124
<b>Food Service Managers</b>	<b>11- 9051</b>	8,126	8,956	830	10.2	233
<b>Lodging Managers</b>	<b>11- 9081</b>	1,417	1,663	246	17.4	63
<b>Tour and Travel Guides*</b>	<b>39- 7000</b>	1,414	1,658	244	17.3	78
<b>TOTAL</b>		<b>56,002</b>	<b>68,242</b>	<b>12,240</b>	<b>21.9</b>	<b>2,438</b>

Source: Arizona Department of Administration



## Summary

As indicated by the analysis, employment demand for occupations related to culinary arts and hospitality management will experience high overall growth in coming years, with some occupations growing much faster. In addition, there is some interest expressed from high school students for a culinary program and a pipeline from secondary schools in Yavapai County. Building a comprehensive culinary program would require a substantial capital investment in a yet to be proven program. In addition to new facilities, the college would also need to consider yearly operating cost of the program and potential cost to students.

Current cost for our closest competitor, Scottsdale Community College is \$4,974 per year for a block of 34 core classes or \$146 per credit hour with laboratory fees and other expenses. \$146.00 per credit hour is low compared to the Kansas Study national mean for cost of instruction and indicates the program is subsidized. Costs for a 29 credit Culinary Arts Certificate at Pima Community College is \$5131 or \$177.00 per credit hour, which is below the national mean. Another consideration is the potential for long-term enrollments. Scottsdale Community College has the potential to draw from a metropolitan area of 3.6 million and Pima from 750 thousand, whereas Yavapai County's entire population is approximately 250 thousand.

## **Recommendations**

Based on the analysis, the recommendation is to pursue Hospitality Hotel/Restaurant Management as a potential program for Yavapai College in the Verde Valley. Market analysis indicates a current and future growth in this segment, which fits well with the economies of Sedona, Cottonwood, and surrounding municipalities. Although the Kansas Study does not report any data on hospitality management, the national mean cost per student contact hour for business administration and management is \$92.00. A program in Hospitality Hotel/Restaurant Management can utilize existing college space and articulate with Northern Arizona University to provide opportunities for transfer, thus reducing the cost of a bachelor's degree in this area.

I would also recommend that the college consider a short basic certificate in culinary arts to capture the current pipeline of secondary students, provide skills for potential employment, and provide additional educational classes for general interest or community education students. This might include developing partnerships or leasing other school or private facilities and launching classes in a variety of modalities and formats such as workshop, seminar, blended or on-line format. Launching a certificate would also allow the college to further assess the interest and need for a culinary arts program.