



**HIGHER EDUCATION MARKET ANALYSIS**  
**CAMPBELL COUNTY, WYOMING**  
Long-Range Educational Needs Market Research

**EXECUTIVE SUMMARY OF FINAL REPORT**

**TABLE OF CONTENTS**

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<b>Key Themes</b>	<b>1</b>
<b>Background of the Study</b>	<b>1</b>
<b>Research Design and Phasing</b>	<b>2</b>
TAM-SAM-SOM	2
Program Cluster Development	2
<b>Research Results</b>	<b>4</b>
Supply estimates	4
Demand estimates	4
Gap analysis	5
<b>Strategic Priority Matrix</b>	<b>7</b>
<b>Community Stakeholder Input</b>	<b>10</b>
<b>Recommendations: Pathways for Growth</b>	<b>10</b>
Program Adaptation / Expansion	11
Enabling New Offerings	14
Leveraging Economic Development	16
<b>Conclusions and Potential Next Steps</b>	<b>17</b>
<b>Project Delivery Team</b>	<b>18</b>

### KEY THEMES

- The educational program clusters including **healthcare** and **business/management** present substantial opportunity to leverage current assets by adapting and growing Gillette College offerings.
- Data on **education and training** programs present conflicting indications about future demand. Despite that, the region would be well served to offer local programs that contain all needed components of teacher and administrator licensure, including student teaching.
- **STEM** education programming should reflect the shifts that are evident in the local energy economy and nationally. Creating a focus on the future of energy and carbon in an information and data-rich environment could represent a substantial opportunity to allow higher education to lead economic development and transformation.
- There is strong support for a locally offered **four-year degree** option both from the community and the types of occupations that show strong promise.
- Gillette College and Campbell County are well positioned to lead in the development and offering of new types of academic credentials such as stackable certificates.

### BACKGROUND OF THE STUDY

Lone Tree Academics LLC, Entangled Solutions, and Innovation Economics LLC were engaged by a four-party consortium of Campbell County, Wyoming, Gillette College, BOCES, and the Energy Capital Economic Development to develop a systematic study and analysis to support decisions about future opportunities for expanding the current portfolio of higher education offerings for Campbell County. The study was commissioned at a time of rapid economic change and challenges in Gillette and Campbell County.

The study and analysis were designed to extend beyond typical higher education market demand analyses, which often only identifies occupational clusters of growing employment, in several aspects:

- Use of real-time labor market data in a customized rural market (where traditional governmental data is limited) of approximately 150 miles from Gillette.
- Develop and translate 10-year employment projections for key economic clusters for use both in understanding likely employment demand and in defining aligned educational programs specific to the area served by Gillette College.
- Identify potential partnering models to assist with the funding and delivery of new or enhanced educational and training products programs.
- Capture and summarize knowledge about key higher education trends in Wyoming affecting the ability to act on potential higher education program opportunities.
- Research of industry-centric economic development models that offer high synergy potential with

education in the study area.

## RESEARCH DESIGN AND PHASING

The research and analysis involved six discrete sets of research tasks, as shown in Figure 1.

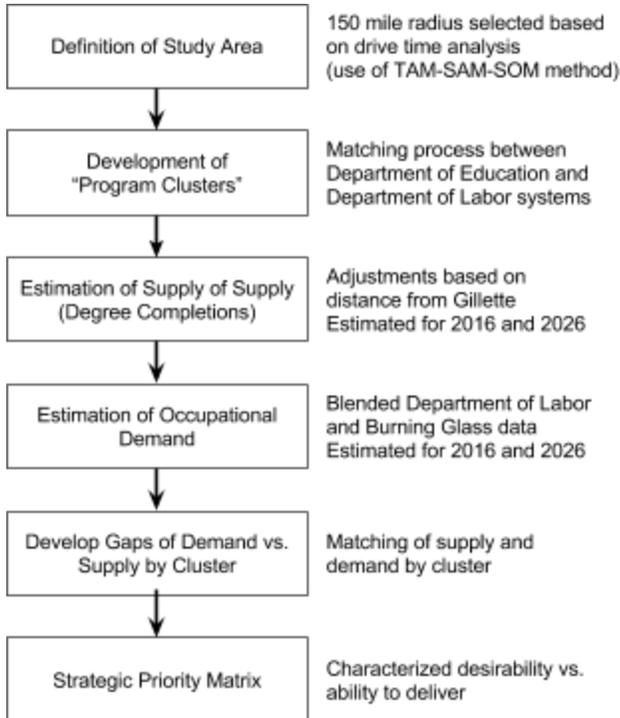


FIGURE 1: Phasing of Analysis

### TAM-SAM-SOM

The overall process of defining and refining the relevant area of study was performed with a technique commonly used in developing lean business plans moving from total available market (TAM) to serviceable available market (SAM) to serviceable obtainable market (SOM). The TAM was defined to include a 150-mile radius based on the typical reach of a site-based education program that may have some blended components, such as some part of the educational experience offered online or at a distance. Not all programs on offer in that area or all students would have an interest in educational offerings in Gillette. The step down to SAM was done by use of a multiplier for educational programs on offer and by a geographic reduction for occupations. The further refinement to SOM was accomplished by the use of program clusters, as described below.

### Program Cluster Development

The development of program clusters represented a unique approach in this study. Although data sets describing the development of jobs (occupations) are related to data portraying the supply of educational graduates (degree conferrals) through data crosswalks, the relationship is a many-to-many relationship with particular degrees relating to many occupations and vice versa. Such a relationship presents an issue with the use of raw occupation data to assess the viability of any one education

# Attachment D - Campbell County Higher Education Market Analysis & Study

## Campbell County Higher Education Market Analysis

offering.

To overcome the inherent confounding nature of the many-to-many relation of the occupational data and educational degree production, a set of 13 degree clusters was developed. The clusters were developed to represent program areas suggested by the current degree program offerings of Gillette College and higher education institutions attracting students in the 150-mile radius study area. The analysis clusters are shown in Figure 2.

Career Cluster	Description
<b>Agriculture, Food, &amp; Natural Resources</b>	Includes Educational Programs such as "Agricultural/Farm Supplies Retailing and Wholesaling" and Occupations such as "Purchasing Agents & Buyers, Farm Products"
<b>Architecture and Construction</b>	Includes Educational Programs such as "Architecture (BArch, BA/BS, MArch, MA/MS, PhD)" and Occupations such as "Engineering Managers"
<b>Arts, Audio/Video Technology, &amp; Communications</b>	Includes Educational Programs such as "Audiovisual Communications Technologies/Technicians, Other" and Occupations such as "Media & Communication Workers, All Other"
<b>Business, Management, &amp; Administration</b>	Includes Educational Programs such as "Public Relations/Image Management" and Occupations such as "Advertising & Promotions Managers"
<b>Education and Training</b>	Includes Educational Programs such as "Educational Leadership and Administration, General" and Occupations such as "Education Administrators, Preschool & Child Care Center/Program"
<b>Finance</b>	Includes Educational Programs such as "Finance, General" and Occupations such as "Financial Managers"
<b>Government and Public Administration</b>	Includes Educational Programs such as "Political Communication" and Occupations such as "Public Relations Specialists"
<b>Health Services</b>	Includes Educational Programs such as "Psychology, General" and Occupations such as "Clinical, Counseling, & School Psychologists"
<b>Law, Public Safety, and Corrections</b>	Includes Educational Programs such as "Corrections" and Occupations such as "Psychology Teachers, Postsecondary"
<b>Manufacturing</b>	Includes Educational Programs such as "Machine Tool Technology/Machinist" and Occupations such as "Rolling Machine Setters, Operators, & Tenders, Metal & Plastic"
<b>Marketing Sales and Service</b>	Includes Educational Programs such as "Marketing/Marketing Management, General" and Occupations such as "Advertising & Promotions Managers"
<b>Science, Technology, Engineering and Math</b>	Includes Educational Programs such as "Engineering, General" and Occupations such as "Engineering Managers"
<b>Transportation, Distribution and Logistics</b>	Includes Educational Programs such as "Aeronautical/Aerospace Engineering Technology/Technician" and Occupations such as "Occupational Health & Safety Specialists & Technicians"

**FIGURE 2.** Education + Workforce Combined Clusters

### RESEARCH RESULTS

Results of the research are presented in four sections:

- Estimate of the **supply of graduates** based on programs serving the study area;
- Estimation of **employment demand** in the study area for graduates in 2016 and projected to 2026;
- Development of **gaps** between supply and demand for 2016 and estimated to 2026; and
- A suggested **priority matrix** factoring in elements of the desirability of certain types of occupations (and associated education programs) measured against the ability to deliver.

#### *Supply estimates*

Supply estimates were developed by mapping degree completions to the clusters from the degree completions reported by the U.S. Department of Education. The analysis used the Integrated Postsecondary Education Data System (IPEDS) data for Classification of Instructional Programs (CIP) codes with graduates. To avoid duplication, instructional programs were included in only one program cluster.

In estimating supply, degree completions from a total of 19 higher education institutions were used in whole or part based on 2016 data. A *market multiplier adjustment* was developed based on the distance of the institution from Gillette, Wyoming. The rationale for using a multiplier is based on research indicating that the greater the distance from an institution the smaller the number of students that are likely to attend a particular higher education institution. Although the University of Wyoming campus in Laramie is beyond the 150-mile study area, it was included in supply estimates because of the statewide mission of the institution.

When estimating supply, the number of graduates shown in 2016 data was held constant for gap analysis with projections for 2026. By keeping the supply data constant, the gap analysis can inform suggested changes to educational programs needed to address changes in occupations by the end of the projection horizon in 2026. Because the responses of the 19 institutions or new entrants to the market are difficult to predict accurately, no estimation was attempted for future supply of graduates.

#### *Demand estimates*

Demand estimates were developed to allow comparison of occupational needs regarding employment positions or jobs with the supply of higher education graduates. Two sources of data were used to develop estimates: U.S. Department of Labor Standard Occupational Classification (SOC) System occupational reporting and real-time data from Burning Glass.

SOC data has several limitations that suggested the addition of real-time data from Burning Glass. First,

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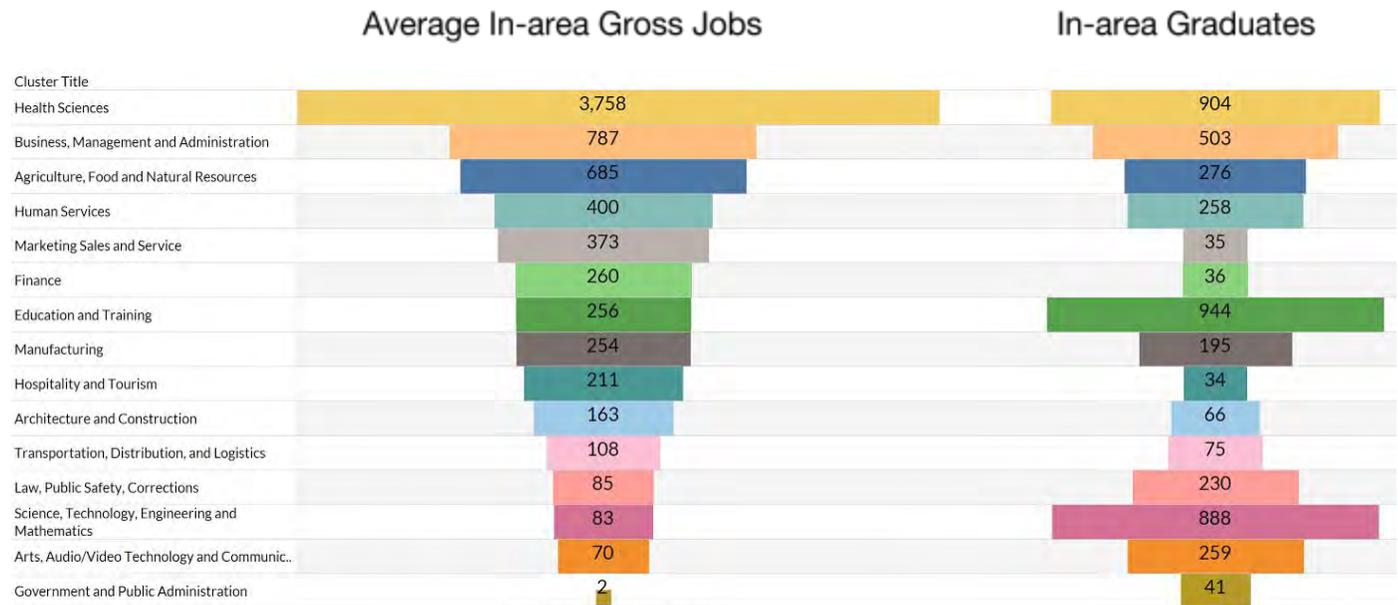
## Campbell County Higher Education Market Analysis

the geographic focus of the data is large for a rural area such as Northeast Wyoming with much reporting done by the county. Second, the data is largely historical with a lag time of several months. Last, although growth estimates are provided in SOC data, those estimates are not provided at a local level such as for Gillette or Campbell County.

The Burning Glass data was seen as a suitable complementary data source to compensate for the limitations of SOC data in a rural setting such as Northeast Wyoming. Burning Glass collects data from employment advertisements on the major internet job posting services to develop a data set of real time occupational demand. The data is mapped to SOC codes and thus can be used with the U.S. Department of Labor information.

### Gap analysis

A gap analysis was performed to match the annual supply of graduates in the study area with the estimated demand in 2016 and 2026. The gap for 2016 demonstrates areas of current over- and under-supply of graduates. The gap analysis was extended to 2026 through use of trends in the occupations demand data specific for northeast Wyoming. Gaps by cluster for 2016 were developed and are shown in Figure 3.



**FIGURE 3:** Supply vs. Demand Gaps 2016

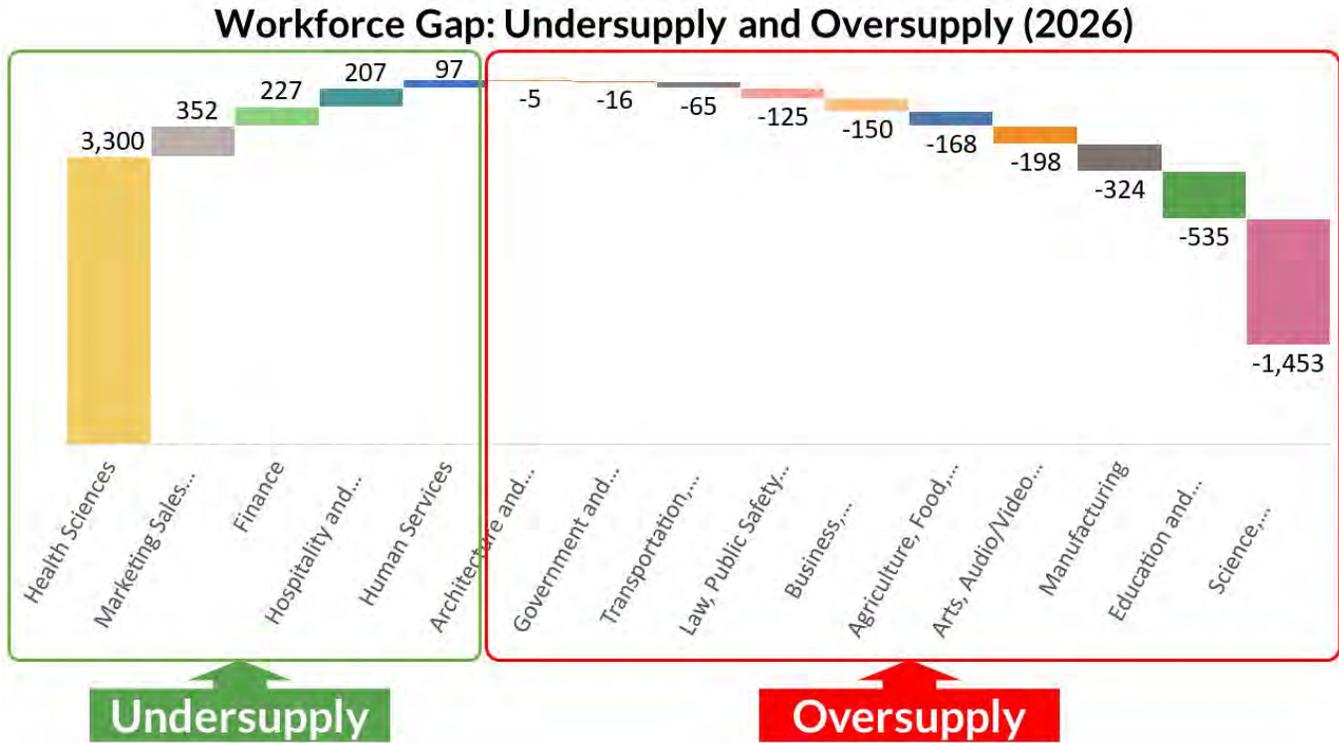
Four clusters--health services, business/management/administration, education/training, and STEM (science, technology, engineering, and math)--had the most significant gaps. Health services and business both demonstrate an undersupply of graduates relative to available jobs in 2016. Education

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## Campbell County Higher Education Market Analysis

and STEM are both demonstrate the opposite with an oversupply of current graduates to current job areas.

The gap analysis was extrapolated to 2026 by keeping existing supply of degrees constant and applying growth or decline estimates to the occupational data for each cluster. The growth/decline estimates were developed with a combination of Department of Labor occupational code estimates and Burning Glass trends. Gaps by cluster in 2026 are shown in *Figure 4*.



**FIGURE 4:** Supply vs. Demand Gaps 2026

The extrapolation of the demand data altered the potential gaps of educational offerings vs. workforce demand. The gap in health services grows due to a strong anticipated increase in the need for workforce in this area. The projected undersupply of business graduates is more muted due to slower indicated growth trends. The growth in oversupply of graduates also shifted for the education and STEM areas. The oversupply gap in education appears lower than in 2016 while the gap for STEM has increased.

Within each of the largest cluster gaps, the underlying occupations were reviewed to provide implications that could be suggestive of programmatic options for higher education in Campbell County. The analysis suggested that three clusters, business/management/administration, finance, and marketing/sales/services should be combined when determining programmatic options. Table 1 contains an analysis of the key occupations for the four most impacted clusters.

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## Campbell County Higher Education Market Analysis

Cluster	Key Occupation Trends	Implications
<b>Health Science</b>	Nursing (++)	Additional nursing enrollment
<b>Education and Training</b>	Elementary education (- -) Educational administration (-) Secondary and vocational ed (-)	<ul style="list-style-type: none"> <li>• Need to filter out recent staff reductions from long term trends.</li> <li>• Dynamics of teaching turnover also need to be analyzed.</li> <li>• Consideration needs to be given to the importing of teachers versus education in area.</li> </ul>
<b>Business / Management / Administration Finance Marketing / Sales / Service</b>	Secretarial (+) Bookkeeping (+) Accounting (-) Economics (-) General admin (- -)	<ul style="list-style-type: none"> <li>• The size of sectors suggested combination into one and use of general business programs with majors or specializations.</li> <li>• Entrepreneurship education may not be fully reflected due to the cross-sector nature of the area.</li> </ul>
<b>STEM</b>	Petroleum Engineering (- -) Biological / Life Science (- -) Mechanical engineering (- -) Chemical engineering (- -) Information technology (+)	<ul style="list-style-type: none"> <li>• Reflects the shift in the resource economy (coal and oil &amp; gas).</li> <li>• Information technology is growing from a small base.</li> </ul>

**TABLE 1:** Supply vs. Demand Gaps 2026

## STRATEGIC PRIORITY MATRIX

The final step in the data analysis was the development of a strategic priority matrix as a tool to assess aspects of the desirability of certain clusters in comparison to the ability of Gillette College and partnering entities to address the clusters. The analysis is similar to different strategy analysis techniques developed by McKinsey & Co. and General Electric.

Scoring for the vertical axis, rating the desirability of each cluster, is comprised of six rating areas. The horizontal axis positioning was developed using three areas indicative of the ability of Gillette College to develop and offer educational programming. The factors were weighted equally on each axis. A

definition of the factors is shown in Figure 5.

### Desirability (Vertical Axis)

**Size of the sector:** objective rating based on labor market data.

**Growth rates:** objective rating based on economic development data.

**Fit to economic development strategy:** rating assessed based on regional economic development strategy.

**Location quotient:** objective rating based on region's industrial specialization relative to the national average.

**Automation risk:** rating assessed based on expert opinion and risk tolerance research.

**Economic impact / multiplier:** objective assessment of potential economic impacts of sector projects based on the RIMS II regional economic model.

### Ability to address (Horizontal Axis)

**Funding:** rating based on interviews with institutional leadership confirming strategy of regional education institutions.

**Organizational Capacity:** rating based on interviews with institutional leadership confirming strategy of regional education institutions.

**State / Institution restrictions:** objective rating based on state and institutional development policy.

**FIGURE 5:** Priority Matrix Rating Factors

The priority matrix (shown in Figure 6) allows for a different type of analysis of the data than purely looking at gaps between supply of graduates and jobs. The matrix allows for recognition that not all jobs are equally *desirable* from an economic development or the ability to deliver quality education programs locally. Some clusters may be undesirable because they are so small that economic impact may be negligible. Clusters in decline can present the need to pare back educational programming.

The last four rating areas for desirability provide an opportunity to assess the fit to aspects of a robust future-state economy. The fit to economic development strategy reflects whether there is current or planned emphasis in the region's economic development strategy for the cluster. The location quotient depicts whether the size of certain occupations is lesser or greater than similar geographic areas. The automation risk was a rating developed based on research into which occupations are most likely to be automated and thus require fewer workers. The measure of economic impact or multiplier provides a model that differentiates occupation types based on impact such as whether a job will tend to create a need or demand for related employment.

The three areas of ability to address reflect typical organizational constraints that a public institution of higher education could face when seeking to offer additional or changed programming to meet evolving employment patterns. Funding is a constant concern for a public institution with many conflicting needs. Even if an institution of higher education may desire to offer new or changed programs, it can be limited by organizational capacity issues such as an inability to hire sufficient faculty, lack of facilities, or lack of practicum placement locations (such as nursing or teaching). Finally, the model sought to assess factors in whether there were existing state or institutional restrictions, e.g., college mission or state

# Attachment D - Campbell County Higher Education Market Analysis & Study

## Campbell County Higher Education Market Analysis

authorization, on adding or changing different types of educational programming.

The priority matrix is shown in Figure 6. The use of a two-dimensional plotting of data from the ratings allows the educational clusters to be examined in different quadrants, reflecting low to high desirability and low to high ability to address. No programs were plotted in the *Find Resources* quadrant indicating that Gillette College has or will be able to address all desirable programs in some fashion.



**FIGURE 6:** Priority Matrix Rating Factors

All the areas in the *De-emphasize* quadrant are consistent with the gap analysis performed earlier. Three of the educational programming areas in the *Redirect Resources* quadrant reflect conflicting data and information discovered in the gap analysis. Offerings in the educational cluster may look different when recent severe budget cuts in K-12 education are normalized to longer-term trends of population size and age profiles. Research during the study also indicated that K-12 offerings, even if smaller in the future, would benefit from local student teaching offerings supervised by faculty based in Gillette.

There is a need to examine offerings in the STEM area to ensure that energy sector jobs of the past, which are no longer in demand and are declining, are not cornerstones of educational programming. The nuances of the business educational offerings suggest the need to ensure flexible programming and fostering transferability through seeking specialized accreditation.

The sole cluster entirely in the *Execute on Growth* quadrant, health sciences, presents a clear but challenging opportunity. As noted above, most of the projected demand that can be addressed by Gillette College in the area is for nursing personnel. A key challenge for such programs, particularly in a rural setting such as Campbell County, is finding sufficient practicum locations. Strategies such as

substitution of simulations for on-location placements may be helpful.

## COMMUNITY STAKEHOLDER INPUT

As a part of the market analysis, community input was solicited through a formal survey and conversations with stakeholders. The survey was submitted to 60 business and community leaders and elicited a response rate of 63%. The key conclusions from the survey respondents were as follows:

- 47% of survey respondents identified a *lack of training or lack of education* as the key source of workforce skills gaps in Northeast Wyoming.
- Just under 40% of respondents cite *4-year bachelor's degrees* as the most needed degree to support future job creation and growth over the next three years.
- 39% of respondents identify the regions growth/change as *fast or moderately fast*.

Detailed results of the community stakeholder survey are presented in the appendix of the report.

Discussions with community leaders yielded similar conclusions with strong support for targeted offerings of 4-year degrees in high need areas such as education and business. There was a shared understanding among stakeholders interviewed that education should support and sometimes lead economic diversification in the region.

## RECOMMENDATIONS: PATHWAYS FOR GROWTH

Analysis of the data, community input, and interviews of key stakeholders resulted in the development of three pathways or scenarios for growth. The recommendations in each area provide support for further action through the development of specific strategies and action plans.

***Program Adaptation / Expansion***

A combination of the supply-demand gap analysis, the strategic priority matrix, and community input suggest the following directions for key clusters in Campbell County and offered by Gillette College. The following recommendations focus on all of the key undersupply areas and the largest oversupply and undersupply clusters.

<b>Cluster:</b> Health Sciences	
<b>Supply/Demand Gap 2026 Estimate:</b> 3,300 <i>undersupply</i> of graduates per year	<b>Program Priority Matrix:</b> <i>Execute on Growth</i>
<b>Specific Considerations</b> <ul style="list-style-type: none"> <li>• Most potential jobs are in nursing and nursing related areas.</li> <li>• Current high completion, placement and NCLEX pass rates.</li> <li>• Degree levels are mixed with strong demand at associate’s to bachelor’s level.</li> <li>• Certificates will play a growing role.</li> <li>• Challenges exist in ensuring adequate practicum slots or developing substitutes.</li> </ul>	
<b>Suggested Academic Program Actions</b> <ul style="list-style-type: none"> <li>• Explore needed skills and degree mix and levels more deeply with healthcare providers.</li> <li>• Develop approaches for branch programs for ADN/LPN to BSN .</li> <li>• Need for scholarship funding sources given reduction in Wyoming state funding.</li> </ul>	

**TABLE 2:** Recommendations for Health Sciences Cluster

<b>Cluster:</b> STEM	
<b>Supply/Demand Gap 2026 Estimate:</b> 1,453 <i>oversupply</i> of graduates per year	<b>Program Priority Matrix:</b> <i>Redirect resources</i>
<b>Specific Considerations</b> <ul style="list-style-type: none"> <li>• Key element in economic development strategies, e.g. advanced carbon uses.</li> <li>• Aggregate over supply levels consist of a mix of under and over supplied technical specialities.</li> <li>• Faculty availability may be an issue.</li> <li>• Degree levels and mixes need additional exploration.</li> </ul>	
<b>Suggested Academic Program Actions</b> <ul style="list-style-type: none"> <li>• Build on College of Engineering and Applied Sciences partnership with U Wyo.</li> <li>• Explore blended/online options to mitigate lack of local faculty.</li> </ul>	

**TABLE 3:** Recommendations for STEM Cluster

**Attachment D - Campbell County Higher Education Market Analysis & Study**  
**Campbell County Higher Education Market Analysis**

<b>Cluster:</b> <i>Education and Training</i>	
<b>Supply/Demand Gap 2026 Estimate:</b> 535 <i>oversupply</i> of graduates per year	<b>Program Priority Matrix:</b> <i>Redirect resources</i>
<b>Specific Considerations</b> <ul style="list-style-type: none"> <li>• Occupation tends to have high turnover and migration of people.</li> <li>• Employment levels cyclical and often related to funding issues.</li> <li>• Minimum qualification is bachelor's degree.</li> <li>• Student teaching supervision has been an issue.</li> </ul>	
<b>Suggested Academic Program Actions</b> <ul style="list-style-type: none"> <li>• Partnered program (possibly blended/online) for upper division and student teaching.</li> <li>• Employ more flexible models for student teaching supervision to allow local delivery.</li> </ul>	

**TABLE 4:** Recommendations for the Education and Training Cluster

<b>Cluster:</b> <i>Business, Mgmt, Admin (+ Finance + Marketing)</i>	
<b>Supply/Demand Gap 2026 Estimate:</b> 150 <i>undersupply</i> of graduates per year	<b>Program Priority Matrix:</b> <i>Redirect resources</i>
<b>Specific Considerations</b> <ul style="list-style-type: none"> <li>• More specialized skills are likely to expand while others shrink.</li> <li>• Can serve finance and marketing through business programs.</li> <li>• Business disciplines are compatible with blended / online modalities.</li> <li>• 2 + 2 programs are common pathways for bachelor's.</li> </ul>	
<b>Suggested Academic Program Actions</b> <ul style="list-style-type: none"> <li>• Ensure that business programs are transferable (e.g. specialized accreditation).</li> <li>• Blended or online support locations, e.g. video enabled classrooms and tutorial services in Gillette.</li> <li>• Tailor curriculum to include support of small business and startups.</li> </ul>	

**TABLE 5:** Recommendations for the Business, Management, and Administration Cluster  
(combined with Finance and Marketing / Sales)

**Attachment D - Campbell County Higher Education Market Analysis & Study**  
**Campbell County Higher Education Market Analysis**

<b>Cluster:</b> <i>Hospitality and Tourism</i>	
<b>Supply/Demand Gap 2026 Estimate:</b> 207 <i>undersupply</i> of graduates per year	<b>Program Priority Matrix:</b> <i>Redirect resources</i>
<b>Specific Considerations</b> <ul style="list-style-type: none"> <li>• Educational content can often be provided by specialized business courses.</li> <li>• Industry is high turnover with few graduates remaining for a full career.</li> <li>• Proximity to resort economy areas is necessary and important.</li> </ul>	
<b>Suggested Academic Program Actions</b> <ul style="list-style-type: none"> <li>• Serve market through specialized business courses.</li> <li>• Tailor curriculum to include support of small business and startups.</li> <li>• Consider certificate programs specific to the sector.</li> </ul>	

**TABLE 6:** Recommendations for the Hospitality and Tourism Cluster

<b>Cluster:</b> <i>Human Services</i>	
<b>Supply/Demand Gap 2026 Estimate:</b> 97 <i>undersupply</i> of graduates per year	<b>Program Priority Matrix:</b> <i>Redirect resources</i>
<b>Specific Considerations</b> <ul style="list-style-type: none"> <li>• Challenges The significant number in other category represents many sub-occupations.</li> <li>• Challenges to maintain program size due to highly diverse occupations with small numbers.</li> <li>• Needed education for many aspects can come through business programs.</li> <li>• Generalized degrees such as social science tend to have less market traction.</li> </ul>	
<b>Suggested Academic Program Actions</b> <ul style="list-style-type: none"> <li>• Leverage business curriculum when possible to meet needs in administration areas.</li> <li>• Assess whether any specific skills programs in the area have sufficient market demand to sustain programs.</li> </ul>	

**TABLE 7:** Recommendations for the Human Services Cluster

The suggested program changes through should drive targeted infrastructure and support services in the areas of modernizing infrastructure, facilities expansion, and adopting new technologies. The suggested actions are shown in Figure 7.

**Attachment D - Campbell County Higher Education Market Analysis & Study**  
**Campbell County Higher Education Market Analysis**

	Programs Clusters Served				
Facility and Support Considerations	Health Sciences	Education	STEM	Business	Human Services
<b>Modernize Infrastructure:</b> update facilities to stay ahead of innovation curve	 Enhanced lab facilities and simulation technology		 Modernize lab facilities and technology	 Video enabled classrooms	
<b>Expand Facilities:</b> create more open floor space to accommodate regional growth	 Expand geographical presence with branch programs		 Expand open work space	 Create blended or online support locations	 Expand open work space
<b>Technology-forward:</b> adopt new technology and software infrastructure.	 Explore degree mix / online education opportunities	 Deliver blended/online education options	 Deliver blended/online education options		 Develop online education programs

**FIGURE 7:** Recommendations for Supporting Technologies for Program Adaptation / Expansion

***Enabling New Offerings***

Significant shifts are underway in the higher education sector driven by student demographics, changes in funding, and educational technology. Since 2007 the number of students nationally in higher education has remained flat. The effects of a flat number attending college have not been evenly distributed, however.

Community college enrollments surged following the onset of the recession in 2007. By 2012 enrollments were in a state of decline nationally and have declined consistently in the range of 2% to 4% per year from 2012 to 2016. The mix of full time and part time students has also changed with full-time enrollment falling off more rapidly than part-time.<sup>1</sup> Institutions with declining enrollments would see a loss of tuition related funds with these developments. For institutions maintaining enrollment, the challenge has been more about the cost of attracting and retaining new students.

The funding mix has also changed for many schools with less of an ability to rely on state-level funding. The loss of state funding is not always compensated by increases in tuition, especially where there is declining enrollment or a shift to fewer credit hours per enrollee. Addressing gaps in funding will require new approaches to securing funds.

Technology also plays an increasing role. The established learning management system model used by the for-profit schools and many state schools is giving way to a more automated platform with the

<sup>1</sup> “Trends in Community College Enrollment and Completion Data – March 2016”  
[https://www.aacc.nche.edu/wp-content/uploads/2017/11/TrendsCCEnrollment\\_Final2016.pdf](https://www.aacc.nche.edu/wp-content/uploads/2017/11/TrendsCCEnrollment_Final2016.pdf)

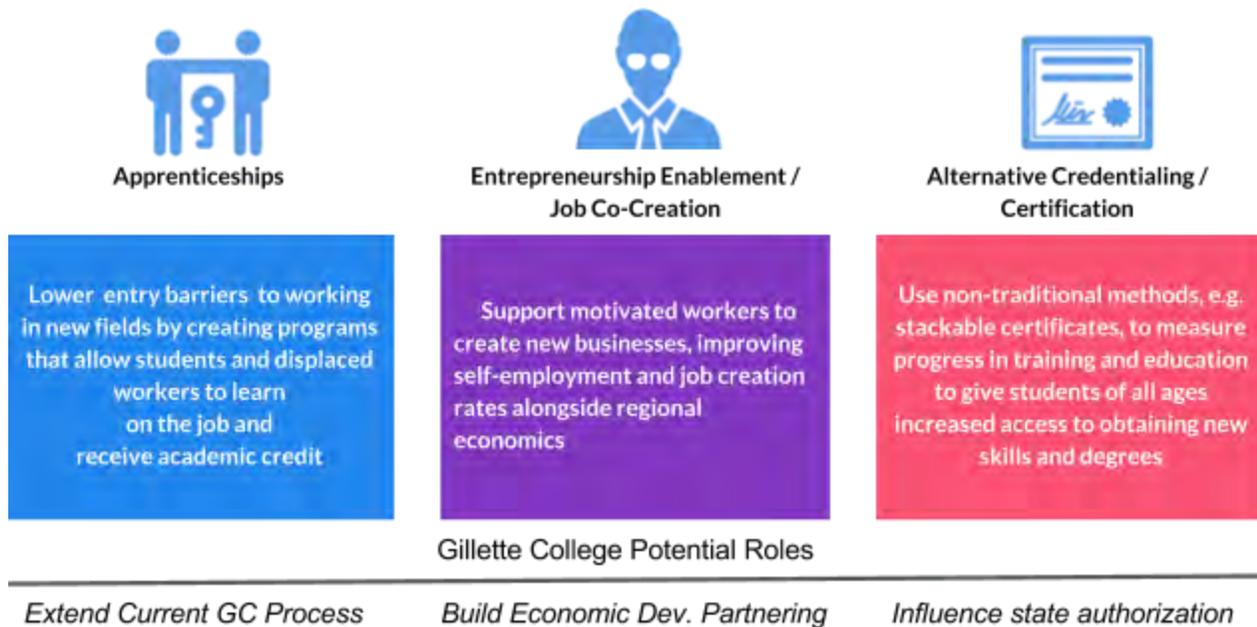
# Attachment D - Campbell County Higher Education Market Analysis & Study

## Campbell County Higher Education Market Analysis

massive online open course (MOOC) software.<sup>2</sup> Improved video capability is also allowing a new generation of blended learning that often includes co-curricular activities such as industry apprenticeships.

Another trend driven by a combination of new entrants around the MOOC platforms and issues of the escalating cost of higher education is the nascent use of alternative credentials. One type of new credential is stackable certificates, which often can be combined or *stacked* towards completion of a degree program.<sup>3</sup> Currently, most certificates center around technology competencies and are driven by technology vendors and manufacturers. It is likely that certificates will see significant growth with the reauthorization of the Higher Education Act in 2018 or 2019.

The effect of the demographic, funding, and technology trends both provides opportunities and poses challenges for Gillette College in embarking on new programs. The market study identified three areas of potential as shown in Figure 8.



**FIGURE 8:** Beyond Degrees with New Credentialing Approaches

Funding models may also need to be adjusted given the cyclical nature of state funding in Wyoming and the unfavorable demographics for higher education. The market study identified nine potential types of differentiated funding that could be considered. The ultimate decision of suitability for Gillette College

<sup>2</sup> Pincus, Karen V., David E. Stout, James E. Sorensen, Kevin D. Stocks, and Raef A. Lawson. "Forces for Change in Higher Education and Implications for the Accounting Academy." *Journal of Accounting Education* 40 (September 2017): 1-18.

<sup>3</sup> Giani, Matthew, and Heather Lee Fox. "Do Stackable Credentials Reinforce Stratification or Promote Upward Mobility? An Analysis of Health Professions Pathways Reform in a Community College Consortium." *Journal of Vocational Education & Training* 69, no. 1 (2017): 100-22.

will depend on further investigation and should match the types of new or expanded programming offered.

### *Leveraging Economic Development*

Linking economic development and higher education is often fraught with risk of misaligned efforts in terms either of having the right skills at the right time for the right industries. The study identified an approach, depicted in Figure 9, that would allow for higher education to be in a leadership role with economic development.



**FIGURE 9:** Synergies of Higher Education and Economic Development

Based on stakeholder interviews, the dominant economic sectors for the region, and statewide initiatives, the study team identified four potential directions for higher education as a leading force in regional economic development:

- Regional energy management hub;
- Regional healthcare services hub;
- Regional business management services hub; and
- Regional logistics management hub.

Successful development in any of these areas would involve a process of defining precise areas or clusters of activity and developing services-based strategies that leverage higher education. A similar strategy has been used in the South Denver Metro area with significant success.<sup>4</sup> Gillette College and collaborating partners such as the University of Wyoming can play a critical role in providing knowhow to effect such a strategy.

<sup>4</sup> See <http://denversouthedp.org/key-industries/>

Gillette College could play a key role with economic development partners in future tracking of diversification and innovation opportunities linked to regional strengths or strategic hub initiatives. Developing the capability to adapt educational offerings quickly as opportunities arise would be an important advantage as market conditions change or strategic partners emerge, e.g. in areas like advanced carbon materials, oil, gas and shale, wind power, or remote servicing systems etc.

## CONCLUSIONS AND POTENTIAL NEXT STEPS

The multi-dimensional study of higher education potential for Campbell County, Gillette College, and Northeast Wyoming demonstrates several areas of promise focused around healthcare services and business/management. The current operating model of Gillette College exhibits the capability to address both of those areas with changes in programming and offerings. **Healthcare** presents the largest opportunity both in terms of serving demand identified through current economic activity as well as exploring developing a regional healthcare hub.

**Business and management** offerings would benefit from developing program that serve graduates in multiple occupations, attaining programmatic accreditation to ensure degree and credit transferability, and partnering with a 4-year provider to offer bachelor's programs locally.

Programs in **education and training** also offer promise but need to be addressed in a nuanced fashion. K-12 education is a priority in Wyoming and Campbell County but the data from supply of graduates and workforce positions presents conflicting information. Regardless of the results when the disruptions of recent funding changes due to economic cycles, the region and Gillette College would benefit from the ability to offer supervised student teaching.

Programs in **STEM** should be targeted to serve the economy of tomorrow and not the occupations of the past 20 years. The current energy economy is in the midst of a long-term transition towards more information-driven, higher value use of coal and oil and gas. Campbell County and Gillette College would be well served to leverage the deep knowledge of these markets to find areas of leadership in information-based services. The needed skill sets for these occupations will vary considerably from the engineering skills demanded for an extraction-based view of the sector.

Overall Campbell County and Gillette College appear well positioned to withstand the challenges in the transition of the regional economy and the higher education sector. This solid positioning allows the region to be on the forefront of new curriculum and credential models that will serve an economic transition well.

## PROJECT DELIVERY TEAM

The team to complete this engagement was developed through a partnership of three entities: Lone Tree Academics, Entangled Solutions, and Innovation Economics. The partnership was assembled to address the unique needs of this engagement for understanding of the rural higher education market of Wyoming, rigorous data analysis, and the use of economic development data.

**Dr. Doug Gilbert** (Lone Tree Academics LLC - [doug@drdoug gilbert.ch](mailto:doug@drdoug gilbert.ch)) led the overall project. He is based in Denver and has previously done substantial work in Wyoming. His involvement in higher education includes serving as a faculty member and administrator for over 25 years as well as serving as general counsel for a higher education investor. Projects in higher education have included the development and implementation of an international private university concept to deliver affordable higher education to less developed countries. The course of that project included representing the investor in discussions with the Wyoming legislature, Wyoming Department of Education, and seeking accreditation with the Distance Education Accrediting Commission (DEAC—formerly DETC). Doug also works extensively with accreditation and performance excellence in higher education serving as an evaluator for the Accreditation Council for Business Schools and Programs (ACBSP), the largest accreditor of business programs worldwide, and as an examiner for state and national Baldrige quality award applications.

**Entangled Solutions LLC** (<https://www.entangled.solutions>) provided program/project management, support for data analysis, and identification of potential partners/funding sources for potential solutions. The company is a top-tier education innovation agency with customers ranging from foundations and private companies to elite institutions and university consortiums. Its services include strategy consulting, research and content development, web development, program design, marketing strategy, business model development, and implementation planning. Entangled Solutions was founded in 2015 and is based in San Francisco.

**Jasmin Schiener** from Entangled Solutions provided project management expertise. She brings deep experience in Higher Education management, most recently as a project manager for a fast-growing for-profit education organization. Jasmin earned a law degree at Bucerius Law School in Germany, and is experienced in program development, market analysis, M&A, healthcare education and the creation of sustainable operations infrastructure for highly regulated education entities.

**Dr. Phil McCreedy** (Innovation Economics - [philipmmccreedy@gmail.com](mailto:philipmmccreedy@gmail.com)) provided guidance and analysis on the economic development-related aspects of employment and educational offering. Phil is a researcher, data analyst, and development economist who has worked in economic development and in higher education. As a development economist he specializes in strategies for technology-led economic development, small business and enterprise development. He has significant experience in research, data analytics, complex projects, strategic planning, presenting and teaching in his field of expertise.



# Campbell County Higher Education Market Study

Research Summary / Concept Plan  
Phase II  
August 2017



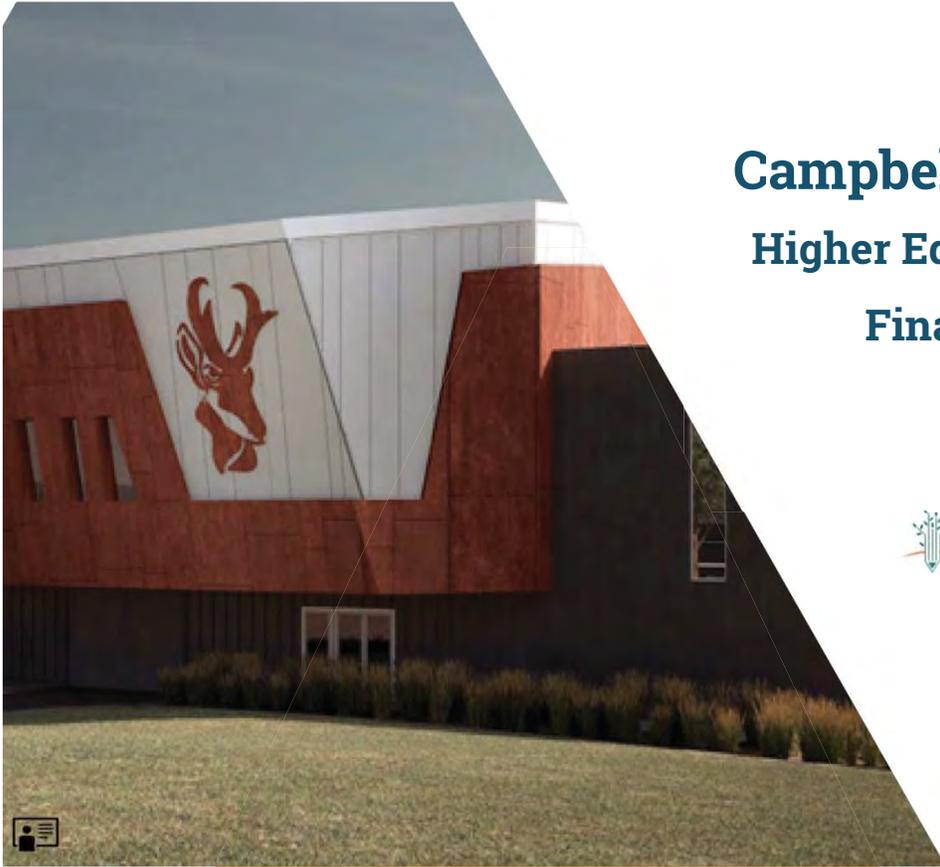
## Agenda

- 01 | Introduction
- 02 | Linking Economic Development & Education
- 03 | Research Findings
- 04 | Competitive Landscape
- 05 | Appendix



## **Purpose of Presentation**

- Deliver Research Summary and Concept Plan (Conclusion of Phase II)
- Gather directional feedback from key stakeholders for Phase III
- Outline next steps to conclusion of project



# Campbell County, Wyoming Higher Education Market Analysis Final Report (Phase III)

December 2017



## Agenda / Contents

1   Introduction	<a href="#">3</a>
2   Economic Development & Higher Education	<a href="#">9</a>
3   Final Research Market Data Findings	<a href="#">15</a>
4   Program Priorities Analysis	<a href="#">55</a>
5   Pathways to Growth	<a href="#">67</a>
6   Stakeholder Survey Analysis	<a href="#">123</a>
7   Appendix	<a href="#">159</a>





## **Introduction**

This market study provides a rigorous economic, workforce, and community analysis of present and future labor market needs and skills gaps using sophisticated labor market information and community consultation methods.

It focuses on identifying opportunities for the Campbell County region to expand higher educational offerings for the benefit of students, employers, and community stakeholders in alignment with workforce growth opportunities in the local-regional economy.