Annual Report to the LCCC Board of Trustees
Program Review Activity for the 2015-2016 Cycle (December 7, 2016)

Executive Summary

INTRODUCTION

This is the second consecutive LCCC Academic Program Review Annual Report that procedure 10.2P directs be generated annually by the Department of Institutional Effectiveness. It summarizes the outputs of the 2015-16 program review cycle that involved six academic programs. The third 2016-17 cycle is already underway for twelve additional programs. The second administration of the institution's program review process realized multiple quality improvements over the first administration. The six programs for the 2015-16 cycle include: 1. Business and Finance/Accounting, 2. Diesel Technology, 3. Natural Sciences (Biology), 4. Nursing, 5. Physical Therapy Assistant, and 6. Wind Energy.

ALIGNMENT OF THE PROGRAM REVIEW PROCESS TO THE BOARD OF TRUSTEES POLICY 10.2

The Board of Trustees have identified Academic program review as the primary mechanism to assess program quality, measure student learning, facilitate program improvement and development, outcomes, while advancing growing alignment and integration of processes. The College's current program review process aligns with the Board's four program review objectives.

OUTPUT OF PROGRAM REVIEW

While the first program review cycle provided the institution with a performance base line that future review cycles can be compared against, this second round should demonstrate sustained or improved performance in most areas and reveal some areas for improvement on an institutional level. Program review output at the institutional level includes:

1. Demonstration of program alignment with LCCC mission;
2. Listings of values and objectives that guide program activity;
3. Summaries of program achievements not commonly found elsewhere at the institution;
4. Program awareness of and responsiveness to stakeholder needs;
5. Time-trend rubric ratings of self-study sections for identifying institution-level features of success and areas for added improvement;
6. Evidence that programs are collecting and analyzing data to verify current performance on attaining their objectives (learning competencies and operational outcomes) and to inform planning for continuous improvement;
7. Program discoveries of strong performance, opportunities, challenges, and areas of concern;
8. Program planning (learning competencies and operational outcomes) attained and program improvements made over the previous five years;
9. Action planning resulting from the program review experience and the discoveries made;
10. Program follow-up reporting and action planning intended for strengthening areas identified for added attention;
11. Faculty engagement with strengthening program quality and the impact of peer-review;
12. Best practices of programs for sharing among all programs; and
13. Strategic development of evidence that supports re-affirmation of regional accreditation.

ITENTIFYING INSTITUTION-LEVEL FEATURES OF SUCCESS AND AREAS FOR ADDED IMPROVEMENT
Using the 2014-15 program review cycle as the institution's baseline performance, analysis of rubric ratings for the 2015-16 cycle reveals that broad improvements in program performance occurred. The largest performance gain appeared for self-study section IV Program Planning. This was the lowest performing area for the 2014-15 cycle and is again the lowest performer for the 2015-16 cycle. However, program performance on program planning made up considerable ground and now runs just slightly behind the knowledge distribution and operational effectiveness sections.

Generally, at the institutional level, more emphasis needs to be placed on programs' skills and practices for self-evaluation, data-driven improvement, and planning as none of these areas were rated above 3.20 on the rating rubric's five-point scale. The organizational section was rated highest of the three sections for this 2015-16 cycle, whereas knowledge distribution performed best for 2014-15.

The College integrates its Key Performance Indicators (KPI) into the program review process, which offers a data-rich, continuous improvement resource in a format of four groupings of measures—1. participation, 2. student success, 3. learning environment, and 4. Efficiency that are aligned with parallel sections of the self-study. A summary analysis of program KPI performance reveals that the majority of programs performed at the middle range of the five-point KPI scale (level three) for the four groupings of measures. While half of the programs performed at higher levels in the participation and learning environment categories, weaker performance developed for the efficiency category. The 2014-15 programs showed a similar pattern for KPI performance.

ALIGNMENT OF 2015-16 ACTION PLAN GOALS TO LCCC STRATEGIC PLANNING
The 2015-2016 review process resulted in 19 action plan goals among six programs for an average of three plans per program compared to two programs per program last year (2014-15). Ten of nineteen action plan goals relate to Goal One: Completion Agenda for the 21st Century. Currently this goal is attracting most of the human effort distributed through action planning. Six goals align with Goal Three (continuous improvement), which is one goal per program compared to .6 goals per program for the 2014-15 cycle. This alignment demonstrates that the campus is moving towards a culture of continuous improvement.

FACULTY ENGAGEMENT WITH STRENGTHENING PROGRAM QUALITY AND THE IMPACT OF PEER REVIEW
Faculty at LCCC engage in discussions about program quality during the peer-review phase of program review. During March 2016 this program review cycle (six programs) generated 672 peer-review feedback comments that drew 168 program responses (112 comments and 28 responses per program). This compares to 635 peer-review feedback comments and 230 program responses (64 comments and 23 responses per program) for last year's 2014-15 cycle (ten programs). Overall, the institution's assumed practices, which are an expression of its values and quality expectations, were being communicated to and interpreted by 42 faculty and staff who represented three colleges and multiple Cabinet VP areas.

BEST PRACTICES OF PROGRAMS FOR SHARING AMONG ALL PROGRAMS
The institution identifies and documents it best practices for program review. The best practices per program rate for 2015-16 nearly doubled that for the 2014-15 cycle. The program review process

identified 25 best practices among six programs for 2015-2016 compared to the 25 best practices identified among ten programs for the 2014-2015 cycle. Best practices for the College concentrate in the self-study sections for program summary and knowledge distribution (curriculum). The fewest best practices are appearing in the planning section, which corresponds with the lower rubric ratings for that section. A Program Review Best Practices Locater (see Appendix E) was developed for the campus and is accessible online at the Office of Institutional Effectiveness in Eagles Eye (program review tab).

CONTINUOUS IMPROVEMENT OF PROGRAM REVIEW: FACE-TO-FACE MEETINGS AND FACULTY REVISIONS TO TEMPLATE

During late March, programs under review have face-to-face meetings with their peer-reviewers to ensure that the interactive online dialogues are offering effective communication about the program's evaluation. These meetings also provide the formal evaluation opportunity for program review using a stakeholder perspective. Faculty feedback from the 2014-15 and 2015-16 cycles mentioned common areas to improve that included: 1. Add clarity to the language in the online self-study templates and remove jargon; 2. Reduce the duplication for required information; and 3. Have more informational meetings scheduled for the reviewed programs during fall while the self-studies are under development.

Most 2015-16 cycle programs preferred to have fall meetings primarily on an individual need basis rather than formal scheduled meetings. The President formally acted on recommendations one and two using an ad hoc faculty committee to revise the self-study template. Committee members did remarkable work in developing the improved self-study template that the current 2016-2017 programs are using to complete their program review self-studies (see Appendix C). The Committee also revised the Program Review Rubric that peer-reviewers use to rate self-study sections.

CONCLUSION

The progress that LCCC faculty have made in strengthening their program review process has been dramatic over its first two full cycles. According to faculty peer-review rubric ratings, program performance has risen in all three categories of review—knowledge distribution, operational effectiveness, and planning skills. Program performance in self-evaluation and in identifying data-driven improvements both increased significantly in equal proportions, areas that the institution is strengthening as a response to AQIP peer-reviewer feedback. In spring 2016, an ad hoc faculty committee revised the program review template and rubric, giving both components the clarity that faculty members valued. In fall 2016, the Academic Standards Committee strengthened the faculty leadership on the Subcommittee for Program Review and installed the first faculty member to the chair position. Also during fall 2016, a new cycle of programs participated in a more disciplined self-study development experience that more effectively leveraged the interaction of programs and their deans.

The 2016-17 cycle involves multiple programs from all four schools for a total of twelve programs, the largest group for this new review process. They are using a new faculty revised template and will be reviewed by a subcommittee with added faculty leadership. Although there were zero best practices being documented systematically from this institution beginning in 2014, faculty have already produced 50 best practices since then that are distributed throughout 75% of the self-study sections. Most of these will transfer over to the new template as they are based on universal concepts of higher education processes and continuous improvement expectations.

MAIN BODY OF REPORT

INTRODUCTION

This is the second consecutive LCCC Academic Program Review Annual Report that procedure 10.2P directs be generated annually by the Department of Institutional Effectiveness. It summarizes the outputs of the 2015-16 program review cycle even as the third 2016-17 cycle for twelve additional programs is already three months underway. The six programs for the 2015-16 cycle include: 1. Business and Finance/Accounting, 2. Diesel Technology, 3. Natural Sciences (Biology), 4. Nursing, 5. Physical Therapy Assistant, and 6. Wind Energy.

The second administration of the institution's program review process realized multiple quality improvements over the first administration. Partly, this is a result of having the 2015-16 program leaders serve as peer-reviewers during the first 2014-15 program review, which familiarized them with the self-study template and with the better practices programs demonstrated during the first year. The second cohort of programs also adhered better to the procedural time line without use of self-study extensions into the fall as was done in the previous cycle. Improvements in the template provided greater clarity to users, resulting in better prepared narratives, and more extensive use of data to support self-evaluations verifying program performance on objectives. This annual report includes executive summaries of the six program reviews for 2015-2016 (See Appendix B).

OVERVIEW OF PURPOSE

The Board of Trustees have identified Academic program review as the primary mechanism to assess program quality, measure student learning, facilitate program improvement and development, outcomes, while advancing growing alignment and integration of processes. The College's current program review process aligns with the Board's four program review objectives as shown in Appendix A. The Board's program review objectives are:

A. Generate meaningful knowledge about how well academic programs are contributing to the attainment of the College's mission;
B. Provide for regular evaluation of each academic program with enough frequency to establish a cycle of planning and assessment for continuous improvement;
C. Incorporate objective input, process, and outcomes components to provide a holistic perspective of programs' current efficacy and guide planning for improvement; and
D. Lead to the development of actionable and appropriate plans for program improvement.

Annually, the results of the current year's program reviews should be provided to the Board of Trustees in enough detail to ensure that the process the President deploys for academic program review meets these objectives.

OUTPUT OF PROGRAM REVIEW

While the first program review cycle provided the institution with a performance base line that future review cycles can be compared against, this second round should demonstrate sustained or improved performance in most areas and reveal some areas for improvement on an institutional level. Program review output at the institutional level includes:

1. Demonstration of program alignment with LCCC mission;
2. Listings of values and objectives that guide program activity;
3. Summaries of program achievements not commonly found elsewhere at the institution;
4. Program awareness of and responsiveness to stakeholder needs;
5. Time-trend rubric ratings of self-study sections for identifying institution-level features of success and areas for added improvement;
6. Evidence that programs are collecting and analyzing data to verify current performance on attaining their objectives (learning competencies and operational outcomes) and to inform planning for continuous improvement;
7. Program discoveries of strong performance, opportunities, challenges, and areas of concern;
8. Program planning (learning competencies and operational outcomes) attained and program improvements made over the previous five years;
9. Action planning resulting from the program review experience and the discoveries made;
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11. Faculty engagement with strengthening program quality and the Impact of peer-review;
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13. Strategic development of evidence that supports re-affirmation of regional accreditation.

1. Demonstration of program alignment with LCCC mission

The program review self-study template requires programs to describe how their missions and activity support the LCCC mission statement. These sections were peer-reviewed for alignment consistency. In addition, the self-study template prompts programs to list their program-level student learning competencies and operational effectiveness outcomes. With these, 2015-16 programs demonstrated alignment to the LCCC mission components of student preparation, a transfer program, or a workforce program. Programs for this cycle also demonstrated how they support the institution's mission theme of transforming students' lives in self-study sections treating curriculum design, instructional delivery, and assessment plan strategies that explain how programs prepare students to learn the program-level competencies.

2. Listings of values and objectives that guide program activity

All programs provided listings of values and objectives that were substantive and well phrased. The values drive program activity from year to year and consistent attainment of these values determines the quality of a program. Below is a listing of values from the Business/Finance-Accounting program.

- Excellence in teaching within high quality, student-centered undergraduate education involving active learning.
- Collaborative relationships with baccalaureate institutions, ensuring high level academic preparation and low impact student transfer.
- Transferability of curriculum through strategic curriculum mapping, ensuring student transferability and completion of higher level degrees.
- Pathways to success enables students to navigate the next four years of their education and ultimately completing a baccalaureate degree.
- Growth and development of students and faculty through active participation in classroom, and professional and college development.

- Respect for the diversity of people, including their varied perspectives, experiences and worldviews.
- Active involvement in shared governance, consensus-building, teamwork, open and effective communication, and respectful, ethical behavior.
- Engagement of students in the curriculum and college experience, creating a community of learning.

Program objectives align with a program's values and are usually measurable. The objectives guide programs' operational day-to-day work. Programs with special accreditation, such as Nursing and Physical Therapy Assistant, have their objectives closely associated with accreditation standards and continuously monitor progress on objectives using formal assessment grids or tables to develop consistent evidence for site team reviews. Programs such as Diesel and Wind Energy also fashion their objectives to match their certification association requirements. Transfer programs, such as Business and Finance/Accounting and Natural Sciences structure their objectives (student learning competencies) to match their baccalaureate institution stakeholder expectations (University of Wyoming) to realize smooth student transfer experiences. Below is a listing of program objectives from Natural Sciences (Biology), including learning competencies and operational objectives.

Student Learning Competencies:

- Design or evaluate experiments testing predictions using controls and managing variables (control of variables).
- Use logic, statistics, probabilities, or proportions to determine an outcome (proportional and probability reasoning).
- Examine mutual/direct, inverse or lack of relationships between variables (correlation reasoning).
- Apply scientific principles to make observations, analyze patterns and trends to arrive at an explanatory generalization / testable hypotheses (inductive reasoning).
- Apply scientific principles to evaluate hypotheses by analyzing or reflecting on experimental data to reach a specific conclusion (deductive reasoning).
- Demonstrate an ability to gather, evaluate, synthesize, and apply primary scientific and technical literature. (scientific literacy)
- Identify the role science plays in historical and contemporary issues (human culture).
- Effectively communicate about sciences and its conclusions to multiple audiences (professional, peers, general public) in multiple formats (interpersonal, verbal, written).
- Demonstrate an understanding of the standards that define ethical scientific behavior (honesty, safety, social responsibility).

- Program Objectives:
- Develop an external advisory committee. (in progress)
- Increase course success rates, especially discipline specific introductory courses.
- Develop a Natural Science flavored COLS 1000 course to better prepare our students for the Natural Science Program.
- Increase graduation rates for each of the specific concentrations.
- Decrease average credits to program completion. (completed)
- Increase transferability of our students to bachelors granting institutions.

- Develop further articulation agreements with the University of Wyoming and other bachelors granting institutions.
- Look for potential opportunities to develop certificate programs for in-demand Natural Science related jobs.
- Look for potential job opportunities to pipeline Natural Science AS graduates.
- Strengthen process for collection and analysis of course and program assessments.
- Develop processes for acquiring data from IR and its analysis to assess programs.

- Service / Outreach Objectives:
- Maintain and look for new opportunities to collaborate with Public Schools.
- Develop a constellation of internships opportunities for our students.
- Develop collaborations with local natural science related agencies, organizations, and business to share expertise, tools and instrumentation, and resources to address local needs and current issues.

3. Listings of program achievements not commonly found elsewhere at the institution

Program review offers a single repository for the institution's program achievements that could be used for marketing purposes and to demonstrate success on program objectives. Although the hard work of faculty is displayed throughout their program review self-studies, this section especially demonstrates their achievements. Below is an excerpt from the Nursing self-study; it closely relates to the success it realizes in meeting its program objectives.

Nursing Program Achievements

- High course success rates i.e. all courses > 90.56%
- Ninety percent of students who enter the program graduate and attain RN licensure.
- Licensure rates for both PN and RN above the national average for the last 3 years.
- Although the program goal is, 95% of new graduates (seeking employment) will be employed within six months of graduation, 100% of graduates have reported employment within 6 months of graduating for the last 3 years.
- 25% of current students are concurrently enrolled in a baccalaureate program.

Program Licensure Pass Rates Over Time

NCLEX-PN
2010: 99% Goal met (Nat'l 87%)
2011: 96% Goal met (Nat'l 85%)
2012: 100% Goal met (Nat'l 82%)
2013: 97% Goal met (Nat'l 84%)
2014: 92% Goal met (Nat'l 82%)
NCLEX-RN
2010: 79% Goal not met
2011: 765 Goal not met (Nat'l 88%)
2012: 93% Goal Met (Nat'l 90%)
2013: 89% Goal Met (Nat'l 83% for all US students 81% for ADN))
2014: 85% Goal Met—Dec. grads test in next year (Nat'l 82 all US grads, 79% ADN)

4. Program awareness of and responsiveness to stakeholder needs

Review of the self-studies reveals that all programs are identifying and responding to stakeholder needs. Programs are using a variety of methods to identify needs such as advisory boards to learn about employer needs; student course surveys, graduating student surveys and learning assessments to learn about student needs; special accreditation or certification to learn about industry needs; and clinical placements to learn about community needs. Program responses to stakeholder needs range from placing greater emphasis on communication skills for diesel technology students based on advisory board employer feedback to lengthening the summer clinical experiences for physical therapy students based on clinical site instructor feedback. The nursing program has 60 community and regional clinical partners as sources of feedback and nursing faculty are engaged in numerous advisory boards and committees throughout the community and state. Examples of those committees include ReNEW, Wyoming Center for Nursing and Healthcare Partnerships, Peak Wellness, Association of Wyoming Psychiatric and Mental Health Nurses, WNA, and ANA. The most significant and important change that has been made to the Business and Finance/Accounting program came about as a result of two years of discussions and negotiations with the faculty in the College of Business at the University of Wyoming, adding value to the degrees that students attain before transferring to four-year programs.

5. Comparison of rubric ratings of self-study sections for identifying institution-level features of success and areas for added improvement

Using the 2014-15 program review cycle as the institution's baseline performance, table 1 below reveals that broad improvements in program performance occurred for the 2015-16 cycle. The largest performance gain appeared for self-study section IV Program Planning. This was the lowest performing area for the 2014-15 cycle and is again the lowest performer for the 2015-16 cycle. However, program performance on program planning made up considerable ground and now runs just slightly behind the knowledge distribution and operational effectiveness sections.

Even though this 2015-16 cycle program cohort included two programs with special accreditation (Nursing and Physical Therapy Assistant), which often provides greater maturity of practice for skills in planning for future performance, two non-accredited programs (Business and Finance/Accounting along with Natural Sciences) also demonstrated strong performances in program planning. Supporting this stronger performance in planning was the institution's ongoing emphasis on annual assessment planning.

The institution was in its second year of annual assessment planning where programs were beginning to actually gather data and enter results for student learning and operational effectiveness into the Aquila planning management database. In addition, the Student Learning and Assessment Committee (SLA) reviewed assessment plans for the second consecutive year in May 2016 and inserted hundreds of feedback comments into programs' assessment plans for improving planning and self-evaluation skills. This likely had an impact on the large gains the institution realized for Self-Evaluation Average and Data-Informed Improvements Average (.37 of a point for each, using a five-point scale). The institution monitors these two performance areas carefully as a response to HLC's Academic Quality Improvement Program (AQIP) Systems Appraisal Feedback Report (February 2015) that recommended the institution improve its maturity rating in these two areas. Several working changes to the 2015-16 template added

clarity to the assumed practices and guidelines that may have had some impact on improved performance as well.

Generally, at the institution level, more emphasis needs to be placed on programs' skills and practices for self-evaluation, data-driven improvement, and planning as none of these areas were rated above 3.20 on a five-point scale. The organizational section was rated highest of the three sections for this cycle, whereas knowledge distribution performed best for 2014-15 when program experiences with the MCORS (definition of course content and competencies) and documentation of degree pathways were being emphasized.

Table 1: Rubric Ratings of Self-Study Sections **II. Knowledge Distribution**	**2014-15 Average of 10 programs**	**2015-16 Average of 6 programs**	**Variance From 14-15 To 15-16**
A. Design	3.12	3.04	--.08
B. Ongoing program self-evaluation and feedback to inform process improvement and adapt to change	2.85	3.11	+.26
C. Improvements and/or changes implemented during the five-year review period. Explain the program's process for making the transition from evaluation and findings to defining improvements	2.94	3.29	+.35
KNOWLEDGE DISTRIBUTION AVERAGE	2.97	3.15	+.18
III. Operational Effectiveness			
B. Design of the organization	2.99	3.32	+.33
C. Ongoing self-evaluation and feedback to inform process improvement and adapt to change	2.74	3.08	+.34
D. Improvements and/or changes implemented during the five-year review period. Explain the program's process for making the transition from evaluation and findings to defining improvements	2.77	3.23	+.46
ORGANIZATIONAL EFFECTIVENESS AVERAGE	2.83	3.21	+.38
IV. Program Planning			
A. Design of program planning	2.72	3.10	+.38
B. Ongoing self-evaluation and feedback to inform process improvement and adapt to change	2.64	3.15	+.51
C. Improvements and/or changes implemented during the five-year review period. Explain the program's process for making the transition from evaluation and findings to defining improvements	2.69	3.00	+.31
PROGRAM PLANNING AVERAGE	2.69	3.08	+.39
PROGRAM SELF-EVALUATION (all 3 sections averaged, II-B, III-C, IV-B)	2.74	3.11	+.37
PROGRAM DATA-DRIVEN IMPROVEMENTS (all 3 sections averaged, II-C, III-D, IV-C)	2.80	3.17	+.37

6. Evidence that programs are collecting and analyzing data to verify current performance on attaining their objectives (learning competencies and operational outcomes) and to inform planning for continuous improvement

The 2015-16 program review template included a more explicit or clear connection between the self-study section on program objectives and the subsequent sections on program self-evaluation, which described how well programs performed on their objectives. For 2015-16, nearly all programs maintained annual assessment plans that included learning competencies and operational outcomes, many of which corresponded to their program review listing of program objectives (assessment plans are embedded within program review self-studies). These assessment plans included data used for self-evaluation and some commentary was provided on improvements. Furthermore, several programs responded well to program review peer-review feedback for this cycle and strengthened their self-evaluation process descriptions based on consistent peer-review feedback that provide guidance for strengthening data or evidence of program performance.

There was a dramatic improvement from the 2014-15 program review cycle to this 2015-16 cycle, partly because no data were reported in annual assessment planning during 2014-15. In addition, only a few 2014-15 self-studies showed clear relationships between their listings of objectives and the corresponding sections on self-evaluation. Very little data was presented to support attainment of objectives. Often statements such as "At *this time the program is not able to generate annual charts of data findings*" appeared in 2014-15 self-evaluation sections. To view the self-study section summaries for the 2014-15 cycle see Appendix F.

For this 2015-16 cycle 1. All six programs listed objectives (learning competencies and operational effectiveness outcomes), 2. Most described the feedback or evaluation methods they had in place to measure performance on objectives, 3. Several included data they gathered showing performance, 4. Fewer demonstrated that analyses of data were conducted, and 5. Fewer still identified data-driven improvements made to strengthen program achievement of objectives.

The 2015-16 programs moved further along the five-step progression shown above than the 2014-15 programs. Their number and diversity of program objectives was greater as was the complexity of feedback systems used. Feedback systems now included a larger array of assessment instruments or methods (e.g., learning performance rubric data, student course questionnaire data, advisory committee minutes, graduating student surveys, CCSSE survey data, stronger assessment planning, licensure and certification data, KPIs, and others). Because the 2015-16 cycle data are new and many of the programs had only a single year of information to present, the level of analysis is slim and the willingness to make changes based on data is still limited. Programs with longer records of formal data gathering, such as Nursing, did display analytic discussions and linked data findings to program improvements.

However, the infrastructure is in place and the culture of continuous improvement building so that other academic programs will now begin to gain ground on the health and wellness programs. For example, the Natural Sciences program is using the Lawson's Test of Scientific Reasoning with an online delivery method to assess student learning. Diesel had moved towards greater reliance on data generated from its Automotive Service Excellence student certification data as a diagnostic tool for

improving student learning. These are big leaps towards a systematic strengthening of our students' learning and adding value to the quality of degrees/certificates the College awards.

Impact of Integrating KPI's into the Program Review Process

The College integrates its Key Performance Indicators (KPI) into the program review process, which offers a data-rich, continuous improvement resource in a format of four groupings of measures—1. participation, 2. student success, 3. learning environment, and 4. Efficiency that are aligned with parallel sections of the self-study. If programs do not discuss their mitigation efforts to raise low KPI measures relating to program objectives, the reviewers ask them to expand discussion. If program responses are ineffective, programs will be required to provide follow-up reports and/or planning goals on the identified KPI sections. Summaries of KPI program performance are available in programs' executive summaries in Appendix B. A best practice for program continuous improvement commentary on KPI performance (Business and Finance/Accounting) is found in the Best Practices Locator (I.B. Program Data Presentation) in Appendix E.

Table 2 shown below displays the KPI performance of the six reviewed programs. It reveals that the majority of programs performed at the middle range of the five-point KPI scale (level three) for the four groupings of measures and particularly for success. While half of the programs performed at higher levels in the participation and learning environment categories, weaker performance developed for the efficiency category. The 2014-15 programs showed a similar pattern for KPI performance, except they performed slightly better in the success category than the 2015-16 group of programs. For two cycles of review, the category that suggests the greater planning emphasis may be the efficiency category; with some attention also going to success.

Table 2: Summary of KPI Average Scores, 2015-16 Cycle

Scoring Quintiles (1 is lowest, 5 is highest)	5	4	3	2	1
A. Participation	Bus/Fin/Acct Natural Sci.	Nursing	Diesel Tech. Phys. Therapy	Wind Energy	None
A.1 Annual FTE (KPI A.1.a)					
A.2 Number of "participants" enrolled (KPI A.1.b)					
A.3 Number of "concentrators" enrolled					
B. Success	Nursing	None	Bus/Fin/Acct Natural Sci. Diesel Tech. Phys. Therapy Wind Energy	None	None
B.1 Course success rate (KPI A.7)					
B.2 Graduation rate for "concentrators" (KPI A.4)					
B.3 Number of Associates and workforce degrees/certificates awarded (KPI C.2.a, D.2.a)					
B.4 Number of "concentrators" matriculating to university (KPI C.3)					
B.5 University matriculation rate (KPI C.3)					
C. Learning Environment	Nursing Phys. Therapy	Natural Sci.	Bus/Fin/Acct Diesel Tech. Wind Energy	None	
C.1 Percent of sections taught by full-time faculty (KPI F.3.a)					
C.2 FTE student to FTE faculty ratio (KPI F.2)					
D. Efficiency	None	Phys. Therapy	Bus/Fin/Acct Natural Sci. Nursing	Diesel Tech. Wind Energy	None
D.1 Average credits to completion (KPI F.1.a)					
D.2 Average time to completion (KPI F.1.b)					
D.3 Average section fill rate (KPI F.4)					
D.4 Core expenditures per FTE (KPI G.1)					

7. Discovery: Strengths, Opportunities, Challenges, and Concerns

One of the higher impact outputs of a program review process is the discoveries of the self-evaluation experience. Programs verify their areas of strength that they can reinforce further and those areas that require added attention and devote stronger planning efforts towards both. The six programs demonstrated considerable variation among their descriptions of discovery. This diversity is a positive characteristic for supporting resiliency at the institution. See the executive summaries for the diverse sets of listings. Items demonstrating some commonality among programs include the following.

Strengths

Well qualified and experienced faculty
Strong licensure pass rates
High student completion rates
High graduate satisfaction rates
High employer satisfaction rates
Strong job placement rates for those seeking employment
Strong demand for program graduates
New facilities add expanded space for instruction and labs

Challenges

Keeping pass rates high with new curriculum changes
Added time commitment for faculty to complete administrative work such as assessment planning, program review, and gathering data

Opportunities

Establishing new advisory committees for program feedback
Develop school-based COLS 1000 courses

8. Program planning (learning competencies and operational outcomes) attained and program improvements made over the previous five years

Natural Sciences (Biology) faculty stated that it is a new program and does not have a previous program review with action plan goals that it could have monitored for progress over the last five years. Other programs, such as Business and Finance/Accounting plus Diesel Technology did not have action goals that were identified from their previous program reviews. However, both chose to annually monitor the action goals they recently established. Diesel Technology has achieved many of its recent planning goals that it initially set in 2014-2015 such as completing National Automotive Teachers Education Foundation re-certification in 2014 and developing a Credit Diploma and revised Associates Degree pathway in spring 2015. The only action plan listed in Nursing's 2012 program review was to maintaining its Systematic Plan for Evaluation, which it has done successfully. It implemented a separate action plan goal beginning in 2014-15 for developing an assessment process for problem solving and attained it through use of the LCCC problem solving rubric and its Leveled Clinical Evaluation Tool. It continues to monitor this goal.

Below is Physical Therapy Assistant's (PTA) account of planning and improvement over the last five years. The PTA Program review, completed in 2012, identified two areas of opportunity /challenges which were:
1. Opportunities exist for ongoing marketing efforts in and around the region to assist the program impact on the region, and
2. Expand the areas in which we draw students so that the immediate area is not saturated with graduates.

Both of these goals have been met by the program with increased recruitment nationally and continued 100% job placement of all students including the students that stay in the Cheyenne area. The program will continue to monitor the employment status of graduates, especially in the Cheyenne region.

Other recommendations from the 2012 Program Review included:
1. The program should continue in its current format,
2. Continue to look for innovative ways to present complex information including (but not limited to) online/hybrid formatting improvements, extension of internship opportunities, and possibly improved student involvement in program assessment, and
3. Continue to look for additional funding sources to expand student involvement in community outreach and student participation at the state and national levels.

Program actions on the 2012 recommendations follow. The program has continued to utilize successful practices from the previous format, while also making necessary modifications to the program. Faculty strive to utilize online resources to support the curriculum including use of D2L. The program has extended clinical practicum opportunities in the region and nationally including increased number of sites in Maine, Utah, Colorado, and Wyoming. Students have become highly involved in program assessment through high percentages of course assessment response rates. The program encourages student involvement within the American Physical Therapy Association (APTA), and students are given the opportunity to become ambassadors through the student conclave in the APTA for the State of Wyoming.

9. Action planning resulting from the program review experience and the discoveries made

One of the central outputs of program review is planning formation for the next five years. Program planning that includes self-evaluation capacity is a good indicator of resiliency and future success. The 2014-15 Annual Report to the LCCC Board of Trustees concluded that the lowest performing area for the ten programs undergoing program review was planning. While planning continues to be one of the weaker performing areas, programs in the 2015-16 cycle demonstrated a better understanding of how to align planning with the data that revealed needs for program improvement. Programs also demonstrated a stronger appreciation for the benefits of directly relating their annual assessment planning to their long-term action planning. When a few more cycles of program review are realized, the institution should consider establishing an improvement yield rate for monitoring the success of its continuous improvement systems. This would build institutional knowledge of how well the institution's planning is supporting strategic planning priorities.

Alignment of 2015-16 Action Plan Goals to LCCC Strategic Planning

Effective alignment of action planning with corresponding LCCC goals and strategies can significantly contribute to the leveraging of human effort towards attaining LCCC planning strategies. For example, the more times programs develop action plan goals that support a specific LCCC strategy (e.g., degree/certificate completion), the more human effort there is being systematically applied to that strategy and the more peer-review activity and improvement feedback is dedicated to attaining that strategy.

The 2015-2016 review process resulted in 19 action plan goals among six programs for an average of three plans per program compared to two programs per program last year (2014-15). Ten of 19 action plan goals relate to Goal One: Completion Agenda for the 21st Century (See Table 3 below). Currently this goal is attracting most of the human effort distributed through action planning. Six goals align with Goal Three (continuous improvement), which is one goal per program compared to .6 goals per program for the 2014-15 cycle. This alignment demonstrates that the campus is moving towards a culture of continuous improvement. Action planning also serves as a resource for the new Institutional Projects Coordinator who will work to assist programs in completing projects related to these action plan goals.

Table 3: Alignment of Action Plan goals to LCCC Strategic Planning, 2015-16

Action Plan Goals and Their Alignment With LCCC Strategic Plan Goals	Programs
Goal 1 Completion Agenda	
--Increase graduation rates through clear pathways	Bus/Fin/Accounting
--Increase course success rates through course-level strategies	Bus/Fin/Accounting
--Increase course success rates through course mapping	Bus/Fin/Accounting
--Increase online course success rates through online course redesign	Bus/Fin/Accounting
--Increase graduation rates through learning communities	Bus/Fin/Accounting
-- Decrease average credits to completion	Natural Sciences (Biology)
--increase program's course success rate	Natural Sciences (Biology)
--increase program's graduation rate for "concentrators"	Natural Sciences (Biology)
--60% of students entering the nursing program will graduate in four consecutive semesters	Nursing
-- The number of qualified applicants will meet or exceed over 150% of the PTA program capacity (30 applicants).	Physical Therapy Assistant
Goal 2 Connections That Improve Student Transitions	
--Increase student success after transfer	Bus/Fin/Accounting
--Increase matriculation rates to a university	Bus/Fin/Accounting
--95% of new graduates (seeking employment) will be employed within six months of graduation	Nursing
Goal 3 An Organizational Culture to Thrive in the Future (Continuous Improvement)	
--Maintain accreditation through the National Automotive Teachers Education Foundation (N.A.T.E.F.).	Diesel Technology
--NCLEX-RN will be at or above the national mean	Nursing

--NCLEX-RN Profile Reports will indicate program achievement at a minimum percentile rank of 50 for each of the seven areas on the graphs for all ADN programs	Nursing
--85% of students will score > 55% overall correct on the Kaplan RN Readiness Exam	Nursing
--Course evaluations show students in the PTA program greater than 75% in the about the same and more for the following areas: the Instructor's ability to manage the class, encourages students, shows respect, is available for assistance, and if the instructor offers additional instruction as needed.	Physical Therapy Assistant
--The program will maintain an ultimate pass rate of greater than 90% or higher on the National Physical Therapist Assistant Exam for the most recent 3-year period.	Physical Therapy Assistant
TOTAL ACTION GOALS	19 Action Plan Goals

10. Program follow-up reporting and action planning intended for strengthening areas identified for added attention

LCCC uses a process of follow-up reporting to reinforce its continuous improvement system. Program review includes a peer-review step that scores program performance using an Academic Program Review Rubric (See Appendix D). Programs perform well on the majority of self-study sections, but occasionally the rubric ratings identify a few areas that need added attention. Rather than let programs strengthen these areas on their own in an ad hoc way, the program review process includes a structured follow-up reporting phase to support program strengthening of these areas. The rubric ratings reveal the follow-up reporting areas in May. In the fall programs develop short-term follow-up reports or long-term action plan goals depending on the scale of the improvement. During the spring the action plan goals are peer-reviewed, and the peer-review teams insert feedback comments within the online planning to help programs realize progress in attaining their action plan goals. This occurs annually until the goal is attained or the next program review is administered.

The following programs had all sections of their self-studies rated above the minimum level of three on a five-point scale (meeting the LCCC assumed practices) by their peer-reviewers who used the 2015-16 Academic Program Review Rubric: Business and Finance/Accounting, Natural Sciences (Biology), and Nursing. Follow-up actions were not required of these programs. Overall, Diesel Technology, Physical Therapy Assistant (PTA), and Wind Energy all responded to the Academic Standards Program Review Subcommittee's recommendations to provide either follow-up reporting or action plans directed at strengthening areas that required added attention. Diesel Technology presented a short-term report and one long-term action plan goal that support program efforts to build improved capacity for self-evaluating its planning performance and strengthening its process for identifying and implementing improvements to its planning performance. PTA completed one short-term report within the Aquila planning area to demonstrate improvement of its operational planning. Wind energy developed considerable action planning that supports capacity strengthening in multiple areas, including curriculum design, program self-evaluation, and identification of improvements.

11. Faculty engagement with strengthening program quality and the impact of peer-review

Faculty at LCCC engage in discussions about program quality during the peer-review phase of program review. The Academic Program Review Procedure (10.2P) requires Deans to appoint program leaders to organize self-studies for programs under review. Ten faculty members developed self-studies for this cycle and responded to peer-review comments (see Table 4). In addition, Academic Standards Committee Procedure (2.12 P) defines the peer review subcommittee structure that leads the evaluation role for LCCC program review (see Table 5). The Academic Standards Subcommittee for Program Review included a group of thirteen formal, full-time faculty and staff members and nineteen part-time faculty members who are assigned to complete program reviews in 2016-2017. The part-time faculty members have lower review workloads and are participating in order to gain experience that will facilitate their preparations of program review self-studies during the next cycle. Overall, thirty-six faculty and six staff members participated in program review activities.

In early February the subcommittee underwent an orientation that included an inter-rater reliability experience to reduce large variances in scoring. The same group of reviewers rated the six programs and produced consistent scoring throughout the review. In addition to writing online feedback comments to programs during February and rating self-study sections using the Program Review Rating Rubric, the review subcommittee members also participated in face-to-face meetings with the reviewed programs' faculty leaders during March.

During their peer review interactions, these faculty and staff communicate back and forth online and form dialogues about quality in the processes that programs use to achieve their missions and attain their values and objectives. Typically, programs respond to peer-review feedback comments by uploading supporting documents to validate claims, answer questions about processes online in Aquila, and/or develop new capacity building documents such as curriculum maps or assessment grids.

During March 2016, this program review cycle (six programs) generated 672 peer-review feedback comments that drew 168 program responses (112 comments and 28 responses per program). This compares to 635 peer-review feedback comments and 230 program responses (64 comments and 23 responses per program) for last year's 2014-15 cycle (ten programs). Program responses are smaller in number than feedback comments, because programs often generate single responses that correspond to three or four faculty reviewer feedback comments for a single self-study section. The 168 dialogues resolve many of the questions posed by reviewers before the March face-to-face meetings occur.

In addition to the online dialogues, program leaders meet face-to-face near the end of the program review process to have discussions about hard-to-solve problems, questions left without appropriate program responses, suggestions for strengthening action plan goals, clarification of review comments when needed, and other topics that program leaders or peer reviewers want to present. This high level of faculty and staff interaction contributes directly to organizational learning about effective and non-effective methods programs use to attain value in programming for stakeholders, which is one of the outputs of the program review process. Overall, the institution's assumed practices, which are an expression of its values and quality expectations, were being communicated to and interpreted by 42 faculty and staff who represented three colleges and multiple Cabinet VP areas. The volume of online dialogues is shown in Table 4 below.

Table 4: Volume of Faculty Dialogue

2015-2016 Academic Program Review Programs		Review Feedback Comments	Program Responses
Programs	**Program Leaders (14)**		
1. Business/Finance-Accounting	Jeff Shmidl, Jeri Griego, and Denise Rogers	101	46
2. Diesel	Seth Robbins, Larry VanWhy	139	28
3. Natural Sciences (Biology)	Amy Wangline, Zac Roehrs	124	30
4. Nursing	Jennifer Anderson	50	0
5. Physical Therapy Assistant	Sarah Hughes	102	35
6. Wind Energy	Bryan Boatwright	156	29
Totals for 2015-2016		672	168

Table 5: Academic Standards Program Review Subcommittee, 2015-2016

1. Faculty Member-Arts & Humanities	Nate Huseman
2. Faculty Member-Business	DeeJaay Beals
3. Faculty Member-Health Sciences	Starla Mason
4. Faculty Member-Math & Sciences	Michele Albert
5. Academic Dean	Cindy Henning
6. Academic Dean	Karen Lange
7. VPAA	Terry Harper
8. One Librarian	Meghan Kelly
9. AVP Institutional Effectiveness & Chair	Kim Bender
10. Chair of the SLA Committee	Kari Brown-Herbst & Jonathan Carrier
11. Student Services Representative	Julie Gerstner
12. Administration and Finance Rep.	Sabrina Lane
Faculty Members With a Role in Developing Next Year's 2016-17 Program Review	
Note: The below-listed Part-Time faculty members will review only one program review self-study to gain experience with the LCCC program review process that will be used for their reviews in 2016-2017.	
1. A&H Spanish, Education Liberal Arts	Antonio Bernabeu and Ian Caldon
2. A&H Education	Ann Shelby and Scott Moncrief
3. A&H English	Damien Kortum and Laura Hayes
4. BATS Automotive Body Repair	Dave Curry & Rob Benning
5. BATS Business Management and Entrepreneurship	Jeri Griego and Jim Streelman
6. BATS Computer Information Systems	Roger Findley
7. BATS Homeland Security	James Burghard
8. HSW Fire Science	Patrick Currie and Nick Siemens
9. HSW Radiography	Ashleigh Ralls
10. M&S Psychology	J. Sanford, J. and L. Gearhart
11. M&S Engineering	Mohamad Chakhad
12. M&S Government Studies	Dave Marcum

12. Best practices of programs for sharing among all programs

The institution identifies and documents it best practices for program review. The best practices per program rate for 2015-16 nearly doubled that for the 2014-15 cycle. The program review process identified 25 best practices among six programs for 2015-2016 compared to the 25 best practices identified among ten programs for the 2014-2015 cycle. Best practices for the College concentrate in the two self-study sections of 1. program summary and 2. knowledge distribution (curriculum). The planning section displays the fewest best practices, which corresponds with the lower rubric ratings for that section.

A Program Review Best Practices Locater (see Appendix E) was developed for the campus and is accessible online at the Office of Institutional Effectiveness in Eagles Eye (program review tab). The locater enables users to review the 50 best practices specific to self-study sections and view their detailed descriptions. Coverage of best practices for self-study sections expanded significantly over the 2014-15 review cycle, now relating to about 75% of listed sections. Over time this list will continue to grow and become a richer resource for strengthening the quality of self-studies. It also provides recognition for those programs performing at high levels. Most of these practices will transfer over to the new template as they are based on universal concepts of higher education processes and continuous improvement expectations.

13. Developing evidence for HLC regional accreditation: The AQIP Pathway

The institution has developed a program review process that demonstrates those institutional maturity characteristics that the AQIP process values—1. alignment and 2. integration. The LCCC program review process formally supports alignment of program missions and action planning to the institutional mission and its strategic plan priorities. The review process also closely aligns with HLC's AQIP process of continuous improvement that includes 1. Process design, 2. Data results of process performance, and 3. Data-driven improvements. For integration, the program review process directly integrates with the College's budget process (Budget Resource Distribution Rubric and New Positions Rubric) so that programs have the opportunity to attract funding for their action plan resource needs. The review process also integrates with the institution's Key Performance Indicators (KPIs) to leverage its diagnostic power for program self-evaluation and encourage data-driven improvements. Moreover, the review process integrates the institution's annual assessment process within its self-study template for analysis of programs' annual planning, self-evaluation, and improvement activity over a multi-year period.

Early in 2015, the Higher Learning Commission (HLC) peer-reviewers evaluated LCCC's System's Portfolio and delivered a Systems Appraisal Feedback Report. While reviewers provided the institution with maturity ratings of "systematic" for most of the College's operational process descriptions, including the program review process design, they rated the institution at the lower level of "reacting" for program capacity to develop data showing process performance and for producing data-informed improvements. The institution's ability to provide evidence of programs meeting and responding to stakeholder needs was also rated at the "reacting" level.

Beginning with the 2014-15 program review cycle, however, programs undergoing program review have been reporting how well they are collecting data and using that data to support decision making and for informing their systematic planning for improvement. Programs are rated on how well they involve

stakeholders and respond to their needs. For program support, the Department of Institutional Effectiveness places institutional research KPI data, NCCBP Cost and Productivity data and CCSSE data within the program review self-studies and aligns data types with their appropriate self-study sections for targeted program use. In addition, Institutional Research significantly expanded faculty access to online data during spring 2016 using its virtual office site in Eagles Eye to display student learning performance results on institutional rubrics, course success rates, historical performance on degrees/certificates awarded, student retention in courses, program KPI performance by quintile rankings, results of student course questionnaires, and more.

Also playing a role in developing data-use maturity are the peer-review resources that are built into the annual assessment planning process for strengthening student learning and program operational effectiveness. Both assessment and program review utilize internal peer-review, which is used to strengthen programs' collection and use of data for self-evaluation and informing improvements. Furthermore, this annual report of program review and its description of outputs can be used to demonstrate the institution's growing maturity when LCCC's 2018-19 Systems Portfolio is drafted, beginning in spring 2018, and the institution's Comprehensive Quality Review is undertaken in 2019-2020.

CONTINUOUS IMPROVEMENT OF PROGRAM REVIEW: FACE-TO-FACE MEETINGS AND FACULTY REVISIONS TO TEMPLATE

During late March programs under review have face-to-face meetings with their peer-reviewers to ensure that the interactive online dialogues are offering effective communication about the program's evaluation, discuss problems or questions that were left unresolved with the online interaction, and to assist with programs' future planning. These meetings provide the formal evaluation opportunity for program review using a stakeholder perspective. Faculty of reviewed programs mention what features of program review worked well and identify features that did not work so well. Faculty feedback from the 2014-15 and 2015-16 cycles mentioned common areas to improve that include: 1. Add clarity to the language in the online self-study templates and remove jargon; 2. Reduce the duplication for required information; and 3. Have more informational meetings scheduled for the reviewed programs during fall while the self-studies are under development.

Most 2015-16 cycle programs preferred to have fall meetings primarily on an individual need basis rather than using formal scheduled meetings. The President formally acted on recommendations one and two using an hoc faculty committee to revise the self-study template. This Ad Hoc Committee for Academic Program Review was made up of faculty representing all four schools at the College and included the Vice President for Academic Affairs, the Dean of Health and Wellness, and the AVP for Institutional Effectiveness. The Committee met from the second week in February through most of April with a focus on clarifying the language and reducing duplication of information requests. Members did remarkable work in developing the improved self-study template that the current 2016-2017 programs are using to complete their program review self-studies (see Appendix C). The Committee also revised the Program Review Rubric that peer-reviewers use to rate self-study sections.

CONCLUSION

The progress that LCCC faculty have made in strengthening their program review process has been dramatic over its first two full cycles. According to faculty peer-review rubric ratings, program performance has risen in all three categories of review—knowledge distribution, operational effectiveness, and planning skills. Program performance in self-evaluation and in identifying data-driven improvements both increased significantly in equal proportions, areas that the institution is strengthening as a response to AQIP peer-reviewer feedback. In spring 2016, an ad hoc faculty committee revised the program review template and rubric, giving both the clarity that faculty members valued. In fall 2016, the Academic Standards Committee strengthened the faculty leadership on the Subcommittee for Program Review and installed the first faculty member to the chair position. During fall 2016, a new cycle of programs participated in a more disciplined self-study development experience that more effectively leveraged the interaction of programs and their deans.

The 2016-17 cycle involves multiple programs from all four schools for a total of twelve programs, the largest group for this new review process. They are using a new faculty revised template and will be reviewed by a subcommittee with added faculty leadership. Although there were zero best practices being documented systematically from this institution beginning in 2014, faculty have produced 50 best practices since then (see Appendix E) that are distributed throughout 75% of the self-study sections. Most of these will transfer over to the new template as they are based on universal concepts of higher education processes and continuous improvement expectations.

APPENDIX A

Board of Trustees Program Review Objectives and Process Alignment

Evidence that the current program review process fulfills Board policy intent.

---Excerpt from LCCC Academic Program Review Policy 10.2: Program Review Objectives
Program review should:

A. Generate meaningful knowledge about how well academic programs are contributing to the attainment of the College's mission;

1. Programs are required to express support of mission in self-study template (I.A.1).
2. Evidence of student transformation is generated in the template section II.B.2 requiring description of learning research findings. Descriptions of transformation methods are found in sections related to the design of curriculum and design of instructional methods.
3. Programs' annual assessment plans display in self-studies and show program strategies used for transforming student learning. Evaluating whether the transforming strategies are effective is a core purpose of assessment planning.
4. Programs list their student learning competencies and operational outcomes, which demonstrate alignment to the mission components of student preparation, transfer program or workforce program (I.A.3).

B. Provide for regular evaluation of each academic program with enough frequency to establish a cycle of planning and assessment for continuous improvement;

1. Procedure 10.2 states that program reviews are scheduled over a five-year period to ensure every credit-bearing academic program is reviewed within this timeframe.
2. Embedded in the review process is evaluation and display of annual planning for student learning and operational effectiveness. Programs are strongly encouraged to support their five-year action plans with annual assessment plans to add monitoring discipline and annual reporting of progress to action planning. Continuous improvement is verified and critiqued by annual peer review of assessment planning (annual cycles) and again through peer-review of program reviews (five-year cycles).

C*. Incorporate objective input, process, and outcomes components to provide a holistic perspective of programs' current efficacy and guide planning for improvement; and*

1. Objective Input: Review procedure (10.2) requires internal peer-reviewers to score programs' performance using the Program Review Rubric. Individual reviewer scores are aggregated to display programs' performance levels for each template section. The performance measures provide a diagnostic display of programmatic strengths and weaknesses for guiding improvement at the program and institutional levels. Annual input from peer-review of assessment planning is integrated into the program review self-studies to demonstrate more frequent input for continuous improvement.
2. Process: The College offers structured processes for programs to sustain continuous improvement, including and annual assessment planning process, five-year program review, and a follow-up planning process to strengthen areas needing improvement during years following program review.
3. Outcomes Components and Efficacy: Outcomes components exist for both student learning and operational effectiveness within annual assessment and program review. Program review

self-study template includes a section on program listings of learning competencies and operational outcomes. The program review template also asks programs to report on their performance (efficacy) for attaining these competencies and outcomes (II.B.1 and III.C.1).
4. Guiding Program Improvement: Programs use the objective input, and results of their assessments on learning competencies and operational effectiveness outcomes to describe their program review discoveries: strengths, concerns, opportunities, and challenges that inform planning for improvement (II.B.3 and III.C.3).

D. *Lead to the development of actionable and appropriate plans for program improvement.*

1. The review process provides the structure needed to support program development of action planning (IV.A.6).
2. The process includes an accountability section (IV.A.3) where programs must report on the success of their action plan goals that were formed in the previous program review.
3. The peer review process ensures that the action plan goals are appropriate and it provides advice on how to improve planning (IV.A.6).
4. The follow-up reporting and planning step ensures continued work on programs' underdeveloped processes after the formal program review period is over.

APPENDIX B
Executive Summaries of Six Program Review Self-Studies

School	Business, Agriculture, and Technical Studies
Program Area	**Business and Finance/Accounting**
Major Programs	A.S. Business and Finance, (64 credits), A.S. Accounting, (64 credits)
Review Period	Fall 2010 to Fall 2015
Self-Study Developed	AY 2015-2016
Review Status	Academic Standards Accepted the Program Review Without Contingencies
Program Leaders	Jeff Shmidl, Jeri Griego, and Denise Rogers
Committee Chair	Kim Bender
Academic Standards Program Review Subcommittee Reviewers	Nate Huseman: Faculty - Arts & Humanities Cindy Henning: Interim Dean –Arts & Humanities Kari Brown-Herbst/Jonathan Carrier: Chair of SLA Committee Julie Gerstner: Student Services Representative Sabrina Lane: Administration and Finance Representative Ann Shelby, Scott Moncrief: 16-17 PR – Education Dave Marcum: 16-17 PR – Government Studies

A. Mission, Vision, Values

MISSION of the A.S. Degrees

To inspire student learning and provide a high quality, affordable associates degree which transfers into a baccalaureate program at a four-year institution.

VISION of the A.S. Degrees

The LCCC Business Educational Team is committed to transforming the lives of students and enhancing our community through inspired learning, excellence in teaching and creative co-curricular activities. Together with our students, we contribute to our community's intellectual, cultural, and economic development.

The Business programs provide academic preparation for successful transfer to four-year institutions and completion of a baccalaureate degree. Established partnerships with baccalaureate institutions create pathways for our students to achieve academic success.

VALUES of the A.S. Degrees

Excellence in teaching within high quality, student-centered undergraduate education involving active learning.
Collaborative relationships with baccalaureate institutions, ensuring high level academic preparation and low impact student transfer.
Transferability of curriculum through strategic curriculum mapping, ensuring student transferability and completion of higher level degrees.
Pathways to success enables students to navigate the next four years of their education and ultimately completing a baccalaureate degree.
Growth and development of students and faculty through active participation in classroom, professional, and college development.
Respect for the diversity of people, including their varied perspectives, experiences and worldviews.

Active involvement in shared governance, consensus-building, teamwork, open and effective communication, and respectful, ethical behavior.
Engagement of students in the curriculum and college experience, creating a community of learning.

B. Brief Program Summary

The primary purpose of the A.S. Business and Finance and A.S. Accounting Programs is to provide educational opportunities for students to develop skills and knowledge necessary to pursue a higher level degree; to gain professional and/or personal development; and to enter, change, or advance their employment opportunities. The Program's transferability has been, and continues to be, articulated closely with the University of Wyoming, where the College of Business has A.A.C.S.B. accreditation. Students with a 2.5 or higher GPA wishing to transfer to U.W.'s College of Business after completion of their two-year degree are accepted as a junior with advanced standing, eligible to enroll in advanced courses in the College of Business.

It is important to note that the business and accounting courses, aside from the program, are an integral piece of Laramie County Community College coursework. Many of these courses are required by business and non-business programs alike. ACCT 2010 and 2020 (Principles of Accounting I and II) are required courses for the AG-Business program. ECON 1010 (Macroeconomics) is a required course for students wishing to transfer into social work at the University of Wyoming. MGT 2100 (Principles of Management) is a course often taken by students majoring in other disciplines, including some of the career technology and health technology programs.

Some of the economics courses also meet general education requirements for LCCC students giving the department strong enrollment numbers for these courses. Both ECON 1000 (Global Economic Issues) and ECON 1010 (Macroeconomics) fulfill the college Cultural Awareness requirements. Making enrollment in these courses strong at four sections and five sections offered annually. Laramie County Community College also offers ECON 1200 (Economics, Law, and Government). Again with many non-business majors, there are currently six sections of this course offered every year. This course is a real benefit for students at the college, because it meets Wyoming's statutory requirement for the constitution. Not only does the course give students some options for meeting the requirement, but it is the preferred course of the University of Wyoming's College of Business.

Business courses have been offered at Laramie County Community College since the business programs were started in 1969. The original business curricula were established to offer Associate of Science programs in Economics, Business Administration, Business Education, Marketing Education, and Accounting, and an Associate of Applied Science in Mid-Management and Banking and Finance. Prior to 1973, the Business programs were a part of the Social Sciences Division. In 1974, the Business and Technology Division was established, and Dick Williams, the Business and Technology Division director, taught most of the business and economics courses. Part-time faculty members were utilized to teach many of the courses.

When the Business and Technology Division was established, the Business Administration Program had two tracks. The students could either declare the transfer program as their major, which led to an Associate of Arts and Science degree, or major in the occupational area, which led to an Associate of Applied Science degree in Business Administration. Those students planning to transfer to a four-year institution took the transfer track.

The Business division continued to grow rapidly and went through many names based on an ever-changing composition. Dick Williams remained the division director for 12 years. Dr. Mohamed Salih became the division director in 1986. In 1994, the division's name was changed to the Business and Technology Division. This change was the result of the dissolution of the Agricultural and Mechanical Trades Division. In 2007 the division became Business, Agriculture, and Technology. The retirement of Mohamed Salih, at the end of the fall 2008 semester, brought many changes to the division, including a name change to the Business, Agriculture, and Computer Technology division. On July 1, 2009, Dr. Dean Bartow was named Dean of the division.

Dr. Bartow retired following the 2012-13 academic year and Dr. Melvin Hawkins was hired as Dean. On July 1, 2013, the division joined the Career Tech division to make up the current School of Business, Agriculture, and Technical Studies. Fall 2014, the Business Department was formalized and Jeff Shmidl was named the Business Department Chair.

C. Program Achievements Over the Review Period

The Business Department has had several achievements since the last program review in 2008/2009.

1. The department was the first in the state to sign program level articulation agreements. Those agreements are being used as a model across the state. See Business and Finance AS^ and Accounting AS^.
2. Economics and Finance faculty member was nominated for the 2011-2012 WACCT Leadership award.
3. Enrollment in the business transfer programs has remained strong and steady in light of declining enrollment at the college.
4. A number of program graduates have went on to get graduate degrees.
5. Data suggests that our students are extremely successful after transfer. The University of Wyoming records first semester GPA after transfer for all Wyoming Colleges and compares that GPA to their own fifth semester student's GPA. The Fall 2014 report shows that LCCC graduates had a first semester GPA of 3.11, while all Wyoming transfers only had a 2.67 GPA and even UW fifth semester students only had a GPA of 2.97. The Business department is the only area where our college did better than UW fifth semester students. See FA 15 UW Transfer GPA.

D. Program Objectives

The Business Department have identified specific program competencies that also align with LCCC institutional competencies. These competencies are based off articulation discussions around what makes a successful business transfer student. The department will annually update these competencies as needed to ensure our students are successful in achieving their educational goals. The department will continuously assess and develop new strategies to ensure these competencies are being achieved at the highest level.

Competency 1: Students apply problem solving skills in the context of business, including analysis of the problem, application and execution of business tools, reflection and evaluation of the problem, and finally consideration of implications and future tasks.

Competency 2: Students apply collaborative skills in the context of business to accomplish a specific goal, including the proper use of cooperation, feedback, and conflict management while considering the differing perspectives of a dynamic team.

The Business Department has identified the following objectives. These objectives are based on a successful business transfer student. The department will annually update these objectives as needed to ensure our students are successful in achieving their educational goals. The department will continuously assess and develop new strategies to ensure these objectives are being achieved at the highest level.

Objective 1: The program will strengthen its process(s) to increase graduation rates.

Objective 2: The program will strengthen its process(s) to increase the transfer rate of students into baccalaureate programs.

Objective 3: The program will strengthen its process(s) to increase the graduation rate of students in baccalaureate programs at UW.

E. Abbreviated Summary of Program Data (KPIs)

The program scored at the highest KPI level (5) for the student participation category in both the three-year average annual FTE and the three-year average number of participants. It also realized the highest KPI level (5) for the efficiency category in the three-year average of core expenditures per FTE. KPI areas that require the program's added attention for improvement include the graduation rate for concentrators in the student success category and the average credits to completion in the efficiency category.

F. Success at Attaining Past Action Plan Goals

Currently we are focusing on three goals:

1. Increase graduation rates of our students to get a larger number of students to transfer in a timely fashion. As can be seen from the program KPI data this is a real area of growth. We expect to get at least a 3 on our KPI score. We have changed our approach to advising students. As a department we will encourage students to complete their degree in two years and transfer, instead of taking extra coursework at LCCC.
2. Increase transfer rates of our students to get a larger number of students to transfer in a timely fashion. The KPI matriculation score is fairly strong, however just by changing our approach to advising, we feel as though this score will become even stronger.
3. Success after graduation. The University of Wyoming records first semester GPA after transfer for all Wyoming Colleges and compares that GPA to their own fifth semester student's GPA. We expect our students to compete with other colleges including students who started college at UW. The Fall 2014 report shows that LCCC graduates had a first semester GPA of 3.11, while all Wyoming transfers only had a 2.67 GPA, and even UW fifth semester students only had a GPA of 2.97. The Business department is the only area where LCCC did better than UW fifth semester students. See FA 15 UW Transfer GPA.

The program utilizes the LCCC's annual operational planning process for monitoring success. Specifically the program reviews effectiveness outcomes and learning competency data and responds through action plan goals. This annual assessment planning is recorded in Aquila and peer reviewed by the Student Learning Assessment Committee.

G. Summary of Review Action Plan Goals

1. Completion Campaign – Increase program graduation rates.
2. Course Articulation – Increase student success after transfer.
3. Course Improvement Strategies – Increase course success rates.
4. Course Mapping – Increase course success rates.
5. Online Course Redesign – Increase online course success rates.
6. Program Articulation – Increase matriculation rates to a university.
7. Student Cohort – Increase program graduation rates.

H. Discovery: Listing of Strengths, Concerns, Opportunities, and Challenges

Strengths:

UW 1st Semester GAP for LCCC transfer students in the UW College of Business – for the fall 2014 semester, LCCC transfer students in the College of business had a UW first semester average GPA of 3.11 – this is higher than all Wyoming Transfers, out-of-state transfers, all transfers, and UW undergrads. This data is evidence of a significant strength of the two programs – the programs prepare our students well for their continued academic work at the University of Wyoming.

KPI A.7 – Course Success Rates – Business and Finance course success rate for 2014-15 was a 71.73. But this is being labeled a strength because it is an increase over the 3-year average of 70.79, and, evidence of current and, hopefully, future improvement. It should also be viewed as an opportunity to continue to improve in this area.

KPI C.3 – Number of concentrators matriculating to university – in this area the Business and Finance program scored a "5"and the Accounting program scored a "4". This data are evidence of a strength of the two programs. Our students transfer to a four-year university.

KPI C.3 – University matriculation rate – in this area the Business and Finance program scored a "3" and the Accounting program a "4". This data are evidence of a strength of the two programs. Our students not only transfer to a four-year university, but they graduate with a Baccalaureate degree.

Additional strengths would include:

- Committed qualified faculty who work together very well as a team
- Faculty are involved in campus-wide committees to enhance collaboration and relationships with others
- Faculty work closely with students as mentors, club advisors and academic advisors

Planning Strengths: These strengths in departmental planning will be capitalized on as the department utilizes a continuous improvement process for change.

Comprehensive Feedback System – The department has identified a system that should ensure solid planning that leads to program success. The system has all of the key components such as: standards, assessment, evaluation, and professional development.

Department Meetings - The department has established a record of inclusive meetings. Our weekly department meetings are unique because they include the business student advisor as well as the business recruiter. This gives us a comprehensive insight into the impact of program changes helping us

ensure that current and/or future students are not adversely effected by changes. All program changes are vetted utilizing department meetings. The main focus is whether the changes positively or negatively affect a student's ability to succeed.

Strong Articulation Relationships – We have a strong relationship with the University Of Wyoming College Of Business. This relationship has proven to be a strength as we are the first articulated program by capitalizing on the relationship. We have also used the relationship to make course level changes and develop our faculty credentials handbook.

Strong Enrollment – Our transfer programs continue to be strong even in the face of declining college-wide enrollment. The implementation of change, programmatically or otherwise, is always easier when enrollment is strong. The enrollment allows us to take more risks with the goal of greater innovation and student success.

Concerns:

KPI A.7 – Course Success Rates – specifically, there are concerns with student success in our online courses. Student success in online courses is significantly lower than student success rates in the traditional classroom. The Business faculty has addressed this concern by starting the process for redesigning all of the business courses, making them easier to navigate and more focused on student engagement.

CCSSEE

Active and Collaborative Learning – our programs and course rated low in this category. This rating was lower than the national average and lower than the overall LCCC score. This is cause for concern.

Student-Faculty Interaction – our rating in this area is also lower than the national average and the overall LCCC score. This is cause for concern.

The concern related to these two indicators is mitigated somewhat by the limitations of the data. For example, these data includes all business students, not just the students in a transfer program. In addition, the only courses that were assessed were Economics courses. Other courses within our two programs may lend themselves better to, for example, Active and Collaborative Learning. The information in this area of concern leads Business faculty to pursue new engagement strategies in our Economics course.

Comprehensive Feedback System – Although the department has identified the system, we haven't yet seen substantial implementation. The system is complex in the sense that it requires assessment and evaluation to be transformed into strategy and development. There are many pieces to this system; all of which require monitoring.

Lack of Experience - Not only is the monitoring a concern, but the actual planning to develop actions from the feedback system is somewhere the department lacks experience. There is a strong concern that the lack of experience will lead to oversite of key elements to make the programs successful.

Challenges:

Faculty are feeling the challenge of the amount of administrative work that is required for MCORs, Assessment, Program and Course Redesign and Program Review, all of which takes a tremendous amount of time and effort and takes away from teaching and class preparation. Although none of the Business Team has been documenting the number of hours spent, it is broad consensus that it is in excess of 20% of the work week. The challenge is to continue to engage with students at the highest level and balance the increasing demands of administrative deadlines. However, we are looking forward to the challenge of implementing changes and improvements in our programs to better our programs and student outcomes.

Time Commitment –To perform at a high level this planning process will require a substantial time commitment. Currently there is no one person with compensation tied to this planning. Asking faculty to perform these duties pulls them away from students and learning, which can adversely affect our standard of preparing a successful transfer student. Currently the department chair is overloaded with other responsibilities which limits their ability to perform the planning at a high level.

Budgetary Constraints – Successful planning requires a budgetary commitment. To perform at a high level, the college will need to make a substantial investment into the professional development of their faculty.

Opportunities:

Input from the Business advisory committee – this advisory committee was formed in the fall of 2015 and held its first meeting in October 2015. Input from the advisory committee creates an opportunity for this business faculty to learn about changing conditions within the respective industries of advisory committee members and any changes in knowledge, skills and abilities that workers in these industries need or will need in the future. This is an opportunity because we have not had this kind of qualitative and timely input in the past.

KPIA.4 – Graduation rate for concentrators – this area could be viewed as a concern or challenge because these graduation rates are low. However, we have placed this in the opportunity section because these low graduation rates are, we believe, largely an artifact of our previous department philosophy (as discussed in Section II.A.6). With the change in department philosophy, and the change in program structure and our articulation agreement with UW, we are poised to be able to increase the graduation rate of our majors.

Additional opportunities of the program are:

- Developing a school based COLS 1000 - First Year Seminar course that is tailored specifically for the Business Program
- Increased retention of students using our new student cohort model
- Articulation of our programs with regional schools, in addition to the University of Wyoming

Opportunities Revealed: These opportunities need extra attention as they provide the greatest impact on our planning.

Business Advisory Committee – The department held its first advisory committee meeting during the fall 2015 semester. There is an opportunity for us to capitalize on this connection with external stakeholders that we haven't had access to in the past. The committee could be an integral tool for future planning and implementation of programmatic changes.

Meaning of Findings: There are several strengths and opportunities to capitalize on making successful planning for the business programs highly possible. The concerns and challenges expose a weakness for departmental planning. The department will need pursue experience and resources in order to ensure success. This is the target program review: to determine what is needed for continuous improvement. Conversations with administration will be forthcoming to help alleviate these concerns and challenges.

School	Business, Agriculture and Technical Studies
Program Area	**Diesel Technology**
Major Programs	A.A.S. Diesel Technology, (62-64 credits), Credit Diploma Diesel Technology, (31 credits)
Review Period	Fall 2010 to Fall 2015
Self-Study Developed	AY 2015-2016
Review Status	Academic Standards Accepted the Program Review Contingent Upon Submission of a Follow-Up Report
Program Leaders	Seth Robbins and Larry VanWhy
Committee Chair	Kim Bender
Academic Standards Program Review Subcommittee Reviewers	Starla Mason: Faculty – Health Science and Wellness Cindy Henning: Dean – Health Science and Wellness Meghan Kelly: Librarian Kari Brown-Herbst, Jonathan Carrier: Chair of SLA Committee Julie Gerstner: Student Services Representative Sabrina Lane: Administration and Finance Representative Juan Antonio Bernabeu, Ian Caldon: 16-17 PR, Spanish Mohamed Chakhad: 16-17 PR, Engineering

A. Mission, Vision, Values

Mission and Vision

The Diesel Technology program prepares students to effectively enter the workforce in the field of diesel repair. We maintain classes in accordance with ASE (Automotive Service Excellence) and NATEF (National Automotive Teachers Education Foundation), our accrediting body, in order to maintain a quality level of education to meet or exceed the expectations of industry. The diesel technology program aligns with Laramie County Community Colleges' Mission and Vision statements in the following ways:

1. Guide the student through the academic advising process to ensure completion of certificate and/or degree programs.
2. Learning activities that strengthen cognitive abilities.
3. Assist the student in finding placement in the field through workforce services and industry partners.
4. Both the automotive and diesel technology programs participate in SkillsUSA Wyoming which enhances sustainability within the Laramie County area. The club, as well as instructors, participate in many local activities that allow students to network with industry partners as well as community members.
5. The diesel technology program strives to allow its students learn in a diverse setting within the classroom and lab environment using instructional environments that allow for clear thought processes and informative outcomes.

Values

The diesel technology program aligns with both industry and Laramie County Community Colleges' core and aspirational values. We are passionate about sharing our own personal beliefs and experiences ensuring our students success through a positive learning environment. All faculty within the diesel technology program discuss curriculum delivery, scheduling and individual student outcomes on a daily basis which we believe to be highly beneficial to our student body.

Our accrediting body requires a minimum of 20 hours per year of professional development to ensure that our teaching methods meet the instructional skill set required by NATEF (National Automotive Teachers Education Foundation). Please see example files attached pertaining to industry professional development. Academic professional development is achieved through Laramie County Community College in-service at the beginning of each semester.

B. Brief Program Summary

The diesel technology program is designed to assist students in achieving Medium/Heavy Duty Automotive Service Excellence (ASE) certification and job placement upon completion of either a credit diploma or associates degree path. A very high percentage of industry professionals are required to either achieve Automotive Service Excellence (ASE) or industry certification prior to being hired for a position. Implementation of the Automotive Service Excellence Service Student Certification program on campus has allowed our students to enter the field with both a general understanding of what an ASE test will look like as well as certifications, (please see attached certificate file), to present to a prospective employer during the interview process.

Current demand for diesel technicians is very high across North America, the diesel technology program allows our students to achieve the basic skills required to obtain employment within the field. This is done through up-to-date curriculum and assessment as well as advisory committee input regarding current industry standards. Dual enrollment with Albany and Laramie County high schools has allowed students to choose a career path in diesel technology while still attending high school, jump-starting their college career.

The diesel technology program is currently running two different sections to allow our students to find employment within the field while attending classes at Laramie County Community College. Course success rates are high and both sections are currently running at or near capacity. Expansion to the new Flexible Technology building in the fall of 2016 is expected to bring national attention to an already thriving program in hopes of further enhancing industry support.

The program is also involved in Skills USA which allows our students to compete with other community colleges and network with industry and other technology students throughout the State of Wyoming and nationwide. The club also works with and assists community members by providing services that would normally not be affordable by many, to enhance and improve not only the lives of the those community members but the students themselves.

C. Program Achievements Over the Review Period

- Course success rates are high with 2014-15 rate at 93.63%
- Course offerings align with new technology and industry standards.
- Using the problem solving institutional effectiveness rubric, as well as ASE Student Certification data, the diesel technology program is and will be looking into student learning outcomes with special attention to those values that decreased over the collection period. Recent changes in program curriculum are expected to increase development of student efficiency and prepare the student for a position in the field.

D. Program Objectives

- Students will demonstrate ASE competencies related to diesel engines.
- Students will demonstrate ASE competencies related to electrical/electronic systems.
- Students will demonstrate ASE competencies related to Brakes.
- Students will demonstrate ASE competencies related to Steering and Suspension.

Embed student ASE (Automotive Service Excellence) certifications as a tool to measure student outcome and curriculum review. Students within the program are given a pretest and a posttest during the nine month program to assist in assessment of curriculum delivery and student retention (please see attached files).

E. Abbreviated Summary of Program Data (KPIs)

KPI measures reveal that the program performs well in the student success category including the 1. number of associates and workforce degrees/certificates awarded, 2. three-year graduation rates, and 3. course success rates. Areas that require added attention for improvement include the number of participants enrolled in the student participation category and the average time to completion in the efficiency category. Low participation is attributed to class cap sizes due to limited lab space and is expected to increase once the courses are moved into the new facility.

F. Success at Attaining Past Action Plan Goals

Goals successfully attained:

1. National Automotive Teachers Education Foundation re-certification (2014).
2. Curriculum Revised to an online format (Fall 2015).
3. Implementation of Institutional Common Course Assessment (Spring 2015).
4. Implementation of Automotive Service Excellence student certification (Spring 2015).
5. State and National SkillsUSA involvement and competitions (on-going).
6. Credit Diploma and revised Associates Degree paths (Spring 2015).

G. Summary of Review Action Plan Goals

Faculty developed a single action plan goal during in service as a starting point for developing a planning strategy within Aquila. Action plan goals currently defined within the program:

1. Assessment data
2. Completion rates
3. Graduation rates
4. Dual enrollment agreements with Albany and Laramie County high schools
5. Enhanced learning outcomes through curriculum review
6. Maintain NATEF Certification
7. Improve program training environments.

Faculty will address the need for adjunct faculty once Flexible Technology use of space is defined by administration.

H. Discovery: Listing of Strengths, Concerns, Opportunities, and Challenges

Diesel Technology Program Strengths:

1. Course success rates are high with 2014-15 rate at 93.63%
2. Course offerings align with new technology and industry standards.
3. The need for diesel technicians within the field is very high and our students are succeeding in filling those positions.
4. Communication with other departments on campus to ensure student success.
5. Goal of having verifiable data through Automotive Service Excellence student testing allowing for changes in curriculum delivery.
6. Instructor to student ratios improve learning environment.
7. Direct and immediate response to stakeholder needs due to high student to faculty contact hours.
8. Implementation of Automotive Service excellence student examinations to assess real data.
9. Advisory Committee input providing industry related effectiveness of the program.
10. Highly trained full time faculty with on-going professional development training.
11. Use of the newly implemented Aquila assessment program as an assessment tool in hopes of strengthening problem solving, completion, graduation rates and enrollment within the program.

Diesel Technology Program Concerns:

1. New assessment process will take time to gather usable data to support the plan.
2. Completion rates could improve.
3. Common course assessment and ASE Student Certification will take some time to properly analyze outcomes.
4. Lack of adjunct faculty in support of the program.
5. Lack of current up-to-date training mock-ups.
6. Shared lab space affecting learning outcomes

Diesel Technology Program Challenges:

1. Lack of mock-ups and available space within the facility for 2 sections of the program.
2. Increase in assessment and review workload due to the program employing 2 full time faculty.
3. Lack of dual enrollment students within the greater Albany/Laramie County areas (new dual enrollment agreements with Laramie County schools expected to be reached in the fall of 2016, Laramie High School dual enrollment agreement should be reached before the end of the spring 2016 semester).

Diesel Technology Program Opportunities:

1. New flexible technology building will allow for ample space to run two sections effectively.
2. Industry in the process of providing several new mock-ups for the program.
3. Flexible Technology facility will allow for improvement in learning outcomes.
4. ASE Student Certification student examinations will allow for measurable data to improve curriculum delivery.
5. The diesel technology program is currently in the process of retooling and obtaining newer industry related mock-ups working closely with the Laramie County Community College Foundation, Perkins funding and industry partners.

I. Continuous Improvement: Follow-Up Reporting and Planning for Strengthening Program Performance

LCCC uses a process of follow-up reporting to reinforce its continuous improvement system. Program review includes a peer-review step that scores program performance using a Program Review Rubric. Programs perform well on the majority of self-study sections, but occasionally the rubric rating identifies a few areas that need added attention. Rather than let programs strengthen these areas on their own in an ad hoc way, the program review process includes a structured follow-up reporting phase to support program strengthening of these areas. The rubric rating identifies the follow-up reporting areas in May. In the fall programs develop short-term follow-up reports or long-term action plan goals depending on the scale of the improvement. During the spring the action plan goals are peer-reviewed, and the peer-review teams insert feedback comments within the online planning to help programs realize progress in attaining their action plan goals. This occurs annually until the goal is attained or the next program review is administered.

J. Short-Term Continuous Improvement Follow-Up Reporting

The Diesel Technology Program has developed one short-term report to report its process for identifying and implementing data-driven program improvements. It responds to the below section.

Strengthen the program's process for making the transition from self-evaluation and analyzing findings to defining improvements (Section IV.C).

K. Long-Term Continuous Improvement Follow Up Action Planning

The Diesel Technology program developed one action plan goal in the Aquila database that guides program actions for strengthening capacity for program planning (Section IV) in one area identified during the program review process (See below).

Strengthen ongoing self-evaluation and feedback data to improve program performance for planning and for adapting to change (Section IV.B).

School	Math & Sciences
Program Area	**Natural Sciences (All Concentrations)**
Major Programs	A.S. Natural Sciences, (60-64 credits)
Review Period	Fall 2010 to Fall 2015
Self-Study Developed	AY 2015-2016
Review Status	Academic Standards Accepted the Program Review Without Contingencies
Program Leaders	Ami Wangeline and Zac Roehrs
Committee Chair	Kim Bender
Academic Standards Program Review Subcommittee Reviewers	DeeJaay Beals: Faculty - BATS Starla Mason: Faculty – Health Sciences & Wellness Terry Harper: Interim Vice President, Academic Affairs Kari Brown-Herbst/Jonathan Carrier: Chairs of SLA Committee Julie Gerstner: Student Services Representative Sabrina Lane: Administration and Finance Representative Damien Kortum: 16-17 PR - English Roger Findley: 16-17 PR – Computer Information Systems

A. Mission, Vision, Values

The Natural Science program at Laramie County Community College promotes personal and professional growth through the development of scientific reasoning and problem solving. The program aims to inspire learning through relevant experiences that emphasize ethical and rational thought. All students in this program will acquire knowledge and skills necessary to develop as professionals in a science field and become informed, critically thinking and engaged citizens. Within their chosen concentrations students will acquire the specific knowledge and skills necessary be successful professionals within their discipline and either move on to a four-year institution and gain a baccalaureate degree or gain employment in related fields.

Concentrations existing within the program consist of: Biology (AS), Chemistry (AA), Chemistry (AS), Human Biology (AS), Molecular Biology (AS), Physiology (AS), Wildlife Biology (AS), and Zoology (AS).

Related links:

1. http://www.lccc.wy.edu/programs/Natural-Sciences/index.aspx

2. http://www.lccc.wy.edu/Documents/Academics/schedule/15-16Catalog_Web.pdf#15-16Catalog.indd%3A.737331%3A758873

Furthermore, an important aspect of the Natural Science program's mission is to provide courses that serve the natural science needs of students and their ultimate success in other LCCC programs (e.g. Agriculture, Business, Computer Science, Education, Health Sciences & Wellness programs).

Finally, it is also part of the Natural Science program's mission to be a conduit to the community for natural science issues, skills and knowledge. This is done through various community outreach, collaborations and partnerships (e.g. our collaborations with Cheyenne and Laramie County GIS Coop, LCCC Bioblitz, Laramie County Conservation District, Laramie County K-12 Schools, Wyoming FFA). Most importantly it is through building as sense of trust and presences in the community so that they see the Natural Science program as an important resource within the community.

Values of Program Faculty
Natural Science Program and its related faculty value:

1) Students and their success. LCCC, its programs and its employee's central value should be our students and their success. This was the driving purpose for the creation of LCCC. The Natural Science Program and its faculty strive to make this our focus and improve student success. To this end over the last five years we have redeveloped our separate programs into the Natural Science Program with the intention of improving student success by increasing recruitment, retention, graduation rates, transferability, and opening up opportunities for students to practice their skills and to gain experience. We have tried to clearly define course and program competencies and learning out comes as wells as expectations and design assessment pieces that will evaluate our effectiveness. We have also developed and continue to develop support structures to identify high risk students, students in need of early interventions, and students who are ready for greater challenges. Finally, we have designed program sequencing and are developing other mechanisms which ensure all Natural Science Program students engage with Program faculty and develop interpersonal relationships which encourage open communication and foster mentoring.

2) Faculty professional development. To support our first value (students and their success) it is important that Natural Science Program faculty keep themselves current and connected in their areas of expertise, active in the process of science, and engaged in improving student learning. Furthermore, faculty are most effective if they are energized educators. Allowing for and supporting diverse faculty professional development activities supports these values. The Natural Science Program faculty engage in a diverse array of professional development experiences including (but not limited to): attending professional meetings and workshops, membership in professional societies, continued credentialing, attending trainings, participating in articulations with K-12 schools, community colleges and universities, conducting and collaborating in authentic research, collaborating with government entities, scientific organizations, and other groups related to their field and in dealing with current issues, and complete college courses to name a few examples. See section "I.A.6. Significant program achievements over the review cycle" for detailed examples of the professional development in which Natural Science Program faculty are engaged.

3) Community engagement. LCCC is by its very name a "community college," was created to serve the community through education and derives most of its funding from community tax dollars. As such LCCC its programs such as the Natural Science Program and its employees serve the community. While our central value is our "students and their success" this can only be partially achieved if our faculty and students are not participating members of the community we serve. Furthermore, since our faculty and students have (or are gaining) specialized experience, skills, tools, and instrumentation they are in a unique position to use these specializations to serve the community while also fulfilling our educational goals. Furthermore, education of the community should not be limited to in the classroom or college level courses. Natural Science Program faculty are engaged in our community through many diverse avenues including: participating in articulations with K-12 schools, community colleges and universities, conducting and collaborating in authentic research, collaborating with government entities, scientific organizations, and other groups related to their field and in dealing with current issues, and providing opportunities for members of the community to learn and grow to

name a few examples. See section "I.A.6. Significant program achievements over the review cycle" for detailed examples of Natural Science Program faculty community engagement.

B. Brief Program Summary

The Natural Science Program was created in the fall of 2014 and implemented in fall 2015. Its creation was the culmination of a number of recent changes at LCCC. Due in part to: an institutional shift to eliminate General Studies Degrees; a requirements for programs to graduate a particular number of students each year; state mandates to reduce total credits required to graduate and state and LCCC requirements to develop articulations with other bachelors granting institutions, as well as a need for the flexibility to help students succeed in the diverse and sometimes not clearly outlined paths to continuing education and careers in the natural sciences. The now Natural Science Program faculty decided to examine the natural science curriculum and degrees. At the time (2013–2014 school year) we offered 5 natural science degrees: Biology (AS), Chemistry (AS), General Studies in Sciences / Health Sciences (AS), Prepharmacy (AS), and Wildlife Conservation and Management (AS). Each program with the exception of the General Studies in Sciences / Health Sciences (AS) consistently graduated few (0–4) majors per semester, while high numbers used the more flexible general studies degree. When we examined the curriculum for these majors we saw that most had very similar core requirements and could potentially be accommodated by a single major. However, the requirement for articulations coupled with the diversity of careers, degrees, pathways, and programs in the natural sciences - and the organizational structure of the institutions - meant we needed to create articulation agreements which were going to offer the flexibility to serve our students.

The solution came in creating a single major with more specific concentrations. This would provide pathways in which a core of courses early in the pathways would generally allow students to switch directions with little to no setbacks as they better refined their goals and interests. At the same time, the concentrations made it easier for potential articulation partners to see that their needs were going to be met and for the students to see that their particular degree was unique to their interest and clearly pointed them to articulating programs at other institutions. As such, the former Chemistry, Pre-Pharmacy and Wildlife and Conservation Management programs were deactivated and the former biology program was changed to the Natural Science (NS) program with multiple concentrations [Biology (AS), Chemistry (AA), Chemistry (AS), Human Biology (AS), Molecular Biology (AS), Physiology (AS), Wildlife Biology (AS), Zoology (AS) - with other potential concentrations and certificate options being discussed]. This new structure meets the diverse needs of our students, allows for better articulation with UW and other regional Bachelors granting institutions, and positions this program to be successful under the new assessment structure and requirements at LCCC and federal and state mandates for student success.

The Natural Science Program has developed 5 program 2+2 articulations with the University of Wyoming (UW) including: Department of Botany (College of Arts and Science) for our concentration in Biology (1), Department of Zoology and Physiology (College of Arts and Science) for our concentrations in Physiology (2), Wildlife Biology (3) and Zoology (4) and with the Division of Kinesiology and Health (College of Health Sciences) for our concentration in Human Biology (5). We have also forged a unique 1+3 articulation with Department of Geology (College of Arts and Science). We are currently in the process of developing articulations with the UW Department of Animal and Veterinary Sciences (College of Agriculture and Natural Resources), Department of Molecular Biology (College of Agriculture and Natural Resources), Department of Chemistry (College of Arts and Science), Department of Geography (College of Arts and Science), and plan to explore articulations with various departments at other regional Bachelors granting institutions (e.g. Black Hills State University, Chadron State College, Colorado

State University, University of Northern Colorado). These articulations may involve the creation of new concentrations to meet other needs.

The organizational structure going forward is built on the leadership of our Dean (Kathy Hathaway), Department Chair (Clint Reading) and the collaborative interactions of our strong faculty and staff. The Natural Science Program faculty and staff operate in a collaborative and collegial fashion to make decisions, overcome problems and complete tasks. The current Natural Science Program consists of 14 full time faculty (Dr. Michele Albert, Dr. Mohamed Chakhad, Dr. Burt Davis, Dr. Qing Du, Dr. Stephanie Fiedler, Trent Morrell, Clint Reading, Meredith Roehrs, Dr. Zachary Roehrs, Dr. Scott Smidt, Dr. Courtney Springer, Dr. Brian Uzpen, Dr. Ami Wangeline, Dr. Marie Yearling), 7 adjunct faculty and 1 support staff member (Caroline Ross).

Over the last 5 years (2011–2015) we have offered 619 sections (41 sections per semester) of various courses with a 5 year FTE of 3,806 (254 per semester) and a 5-year total enrollment of 11,256 students (750 students per semester) including NS program majors as well as many other programs (e.g. Agriculture, Computer Sciences, Health Sciences, etc.). Of these students we had a 97% course retention rate with a 66% success rate. While this number is not as high as we would like it to be the new Natural Science Program has targeted this as an area to focus our efforts over the upcoming years. It is also important to keep this number in context as this number is dominated by three entry level courses (Anatomy & Physiology I, General Biology and General Chemistry) often considered to be difficult courses at all institutions as many student's inaccurate expectations and are only beginning to develop the skills they will need to be successful in science. Furthermore, this success rate is on par with other community colleges (e.g. California Community College System 68%).

The degrees that have become the Natural Science Program graduate a total of 185 students in the last 5 years with a graduation rate of 6% (does not include graduates in General Studies in Sciences / Health Sciences), a figure we hope to improve in the next 5 years with the changes we have implemented. In the natural sciences, most careers will require further education beyond an associate's degree. Current data indicates that 49% of our students matriculate to the University of Wyoming and we know we also have a number of students matriculating to Colorado and other regional institutions as well as a number of other universities part of the Western Interstate Commission for Higher Education (WICHE). Finally, we have had a number of our graduates receive competitive scholarships, internships, and go on to graduate and professional programs in their fields. With the recent campus wide changes and NS program changes we hope this number will increase.

The community service and outreach of the Natural Science Program and it's faculty and staff is extensive and has included collaborations with: Albany and Laramie County School Districts, Audubon Society in Caper and Cheyenne, Cheyenne and Laramie County Cooperative GIS Program, Colorado State University, Junior Leadership Cheyenne, Laramie County Conservation District, National Geospatial Technology Center of Excellence, National Weather Service of Cheyenne, North American Network of Science Labs Online, Oklahoma State University, University of Nebraska, University of Northern Colorado, University of Wyoming, Western Interstate Commission for Higher Education, Wyoming Community Colleges, Wyoming INBRE Network, Wyoming State Future Farmers of America, and Wyoming State Science Fair to name a few. For details please see section "I.A.6 Significant program achievements over the review cycle" of this review.

Finally, it is important to note that as the Natural Science Program is new (implemented for <1 year) indicators of performance outlined above reflect our previous programs and that indicators of

performance for this new program are limited. However, as outlined in other sections of this review we have further plans to improve the Natural Science Programs performance relative to measured outcomes and have data for the previous 5 years on which to compare these changes in the future.

C. Program Achievements Over the Review Period

NS PROGRAM ACHIEVEMENTS:

- **Developed new structure for program**, changing the former Biology program to Natural Science (NS) program with multiple concentrations [Biology (AS), Chemistry (AA), Chemistry (AS), Human Biology (AS), Molecular Biology (AS), Physiology (AS), Wildlife Biology (AS), Zoology (AS)]. This news structure meets the diverse needs of our students, allows for better articulation with UW and other regional Bachelors granting institutions, and positions this program to be successful under the new assessment structure at LCCC and federal and state mandates for student success. The former Chemistry, Pre-Pharmacy and Wildlife and Conservation Management programs were deactivated.

- **We have developed 5 NS program 2+2 articulations with the University of Wyoming (UW)** including with the: Department of Botany (College of Arts and Science) for our concentration in Biology (1), Department of Zoology and Physiology (College of Arts and Science) for our concentrations in Physiology (2), Wildlife Biology (3) and Zoology (4) and with the Division of Kinesiology and Health (College of Health Sciences) for our concentration in Human Biology (5). We are in the process of developing articulations with the UW Department of Animal and Veterinary Sciences (College of Agriculture and Natural Resources), Department of Molecular Biology (College of Agriculture and Natural Resources), Department of Chemistry (College of Arts and Science), Department of Geography (College of Arts and Science), and plan to explore articulations with various departments at other regional Bachelors granting institutions (e.g. Black Hills State University, Chadron State College, Colorado State University, University of Northern Colorado).

- **New Courses Developed (5+ new course):**
  - Life in the Universe (ASTR 1490) 3 credits – Brian Uzpen
  - Scientific Research I & II (BIOL 1390 & BIOL 2390) 4 credits – Ami Wangeline & Zachary Roehrs
  - Cooperative Work Experience (CHEM 1480) 1 credit – Qing Du
  - Introduction to Geospatial Technology (GEOG 1220) 3 credit – Trent Morrell
  - Fundamentals of the Physical Universe (PHYS 1090) 4 credits – Brian Uzpen
  - Advanced Concepts in Physiology (ZOO ?) – Michele Albert working on this (MCOR, etc.) to be offered in Fall 2016.
  - Have developed a Natural Science flavored COLS 1000 to not only meet the COLS 1000 course competencies but do so in ways that may help students be better prepared and successful in science courses and programs. Currently we are waiting for LCCC to decide how discipline based COLS will be implemented.

- **MCOR's Completed (28 courses in NS program):**
  - Survey of Astronomy (ASTR 1050), Current Issues in Biology (BIOL 1003), General Biology (BIOL 1010), Animal Biology (BIOL 2022), Introductory Chemistry (CHEM 1000), General Chemistry I (CHEM 1020), General Chemistry II (CHEM 1030), World Regional Geography (GEOG 1000), Introduction to Physical Geography (GEOG 1010), Human Geography (GEOG 1020), Mobile Mapping with GPS (GEOG 1040), Introduction to Natural Resources (GEOG 1050),

Introduction to Geographic Information Systems (GEOG 1100), Introduction to Geospatial Technology (GEOG 1220), Physical Geology (GEOL 1100), Historical Geology (GEOL 1200), Medical Microbiology (MICR 2240), Concepts of Physics (PHYS 1050), Fundamentals of the Physical Universe (PHYS 1090), General Physics I (PHYS 1110), General Physics II (PHYS 1120), College Physics I (PHYS 1310), College Physics II (PHYS 1320), Anatomy and Physiology I (ZOO 2010), Anatomy (ZOO 2015), Anatomy and Physiology II (ZOO 2020), Physiology (ZOO 2025), Wildlife Management (ZOO 2450).
  - Many of these also included General Education approvals.

- **Courses Developed as Online (9) and Hybrid (6) offerings:**
  - Current Issues in Biology (BIOL 1003) Online – Cortney Springer, Ami Wangeline
  - General Biology (BIOL 1010) Hybrid – Zachary Roehrs, Ami Wangeline
  - Animal Biology (BIOL 2022) Hybrid – Zachary Roehrs
  - Introductory Chemistry (CHEM 1000) Online – Qing Du
  - General Chemistry I (CHEM 1020) Hybrid – Qing Du
  - General Chemistry II (CHEM 1030) Hybrid – Qing Du
  - World Regional Geography (GEOG 1000) Online – Trent Morrell
  - Introduction to Physical Geography (GEOG 1010) Online – Trent Morrell
  - Human Geography (GEOG 1020) Online – Trent Morrell
  - Introduction to Environmental and Natural Resources (GEOG 1050) Online - Trent Morrell
  - Physical Geology (GEOL 1100) Online and Hybrid – Maggie Swanger, Ed Heffern, Trent Morrell
  - Medical Microbiology (MICR 2240) Hybrid – Cortney Springer, Marie Yearling
  - Anatomy and Physiology I (ZOO 2010) Online – Meredith Roehrs
  - Anatomy and Physiology II (ZOO 2020) Online – Clint Reading

- **New Student Engagement Opportunities:**
  - Natural Science Club – related to our old program model we had multiple natural science related clubs (e.g. Range and Wildlife Club, STARR Club). Based on your new program model we (Zachary Roehrs, Cortney Springs and Marie Yearling) have combined these efforts into a single club. The Natural Science Club allows students who share a common interest to get together outside of class to discuss their coursework, organize club activities and outreach, prepare for life after graduation, or just enjoy a little time with fellow scientists!

  - Running Club – This club provides the opportunity for students and employees of LCCC to exercise their bodies as well as their minds and encourages people of all levels to participate. Trent Morrell was instrumental in creating this club and is the club's faculty mentor.

SPECIFIC NS PROGRAM STUDENT ACHIEVEMENTS:

- Over the last 5 years the NS program has taught 619 course sections (41 per semester) with a total FTE of 3,806 (254 FTE per semester) serving 11,256 students (750 per semester) including NS program majors as well as many other programs (e.g. Agriculture, Computer Sciences, Health Sciences, etc.). Of these students we had a 97% course retention rate with a 66% success rate. While this number is not as high as we would like it to be the NP program has targeted this as an area to focus our efforts over the upcoming years. It is also important to keep this number in context as this number is dominated by three entry level courses (Anatomy & Physiology I, General Biology and General Chemistry) often considered to be difficult courses at all

institutions. Furthermore, this success rate is on par with other community colleges (e.g. California Community College System 68%).

- In the natural sciences most careers will require further education beyond an associate's degree. Current data indicates that 49% of our students matriculate to the University of Wyoming and we know we also have a number of students matriculating to Colorado and other regional institutions as well as a number of other universities part of the Western Interstate Commission for Higher Education (WICHE). With the recent campus wide changes and NS program changes we hope this number will increase.

- Since the 2010–2011 academic year NS related programs have awarded a total of 185 degrees to students (Table 1).

Table 1.—Natural Science Program Degrees Awarded*

Degree	2010–2011	2011–2012	2012–2013	2013–2014	2014–2015	Totals
Biology (AS)		1	3	5	4	13
Chemistry (AA)						0
Chemistry (AS)	2					2
General Studies in Science/Health Science (AS)	20	25	37	42	34	158
Pre-Pharmacy (AS)		2	2		4	8
Wildlife Conservation and Management (AS)			2	1	1	4
	22	28	44	48	43	185

* All these degrees are now part of the Natural Science Program.

- Over the last 5 years 6 of our graduates have received the competitive Community College / University of Wyoming Transition Fellowship. These individuals are selected from a state wide pool of community college students nominated by Wyoming INBRE participating faculty based on their GPA, essays, previous participation in INBRE, and letters of recommendation.
  - 2015 (3): Samantha Haller, Jessica Marsh and Kelsea Zukauckas
  - 2013 (2): James Erdmann, William Trebelcock
  - 2011 (1): Joshua Sharpe

- **Internships**
  - Laramie County Conservation District: Just created.
  - Laramie County GIS Department: Andrew McCown (2015-16)

- **Clubs:**
  - Natural Science Club – Zachary Roehrs Courtney Springer, Marie Yearling (Club was created Fall 2015).
  - STARR Club –Richard Laidlaw (2011–2015), Marie Yearling (Spring 2014).

- Range and Wildlife Club –Carmen Kennedy (2011), Zachary Roehrs (Fall 2012 – Spring 2014).

NS PROGRAM OUTREACH ACHIEVEMENTS:

- Faculty within the NS program have participated in annual articulation meetings with Laramie County School District #1, Wyoming Community Colleges, and the University of Wyoming in the areas of Anatomy and Physiology, Biology, Chemistry, Ecology, Geography, Geology, Kinesiology, Microbiology, Molecular Biology, Physics, Wildlife and Zoology.

- LCCC GIS Day – Since November 2006 faculty (Trent Morrell) and Cheyenne and Laramie County Cooperative GIS Program have organized the annual LCCC GIS Day – a program to create awareness of the power of the Geographic Information System and other geospatial technology.

- LCCC Bioblitz – Since Spring 2012 faculty (Clint Reading, Meredith Roehrs, Zachary Roehrs, Ami Wangeline) have organized the annual LCCC Bioblitz – a 24-hour inventory of biodiversity on the LCCC campus. To date we have had a total of 116 participants and have recorded 102 species on campus. For more information, see reports.
  - Spring 2012 – 11 participants: 3 faculty, 8 LCCC students; identified 26 species.
  - Fall 2013 – 32 participants: 3 faculty, 29 LCCC students; identified 56 species.
  - Fall 2014 – 41 participants: 4 faculty, 25 LCCC students, 2 UW students, 1 faculty and 7 students from Cheyenne South High School, 2 children of participants; identified 88 species.
  - Fall 2015 – 32 participants: 5 faculty, 19 LCCC students, 3 UW students, 5 children of participants; identified 90 species.

- STEM Camp for Girls 2012 – Led breakout Sessions:
  - Science is Everywhere! Ami Wangeline
  - Beyond Dr. Doolittle. Michele Albert and Meredith Roehrs
  - Chemistry is Fun! Qing Du

D. Program Objectives

The faculty within the Natural Sciences Program have identified program objectives which help strengthen the program through: outreach, recruitment and retention initiatives; a focus on success through completion of courses, graduation, and successful transfers to 4-year institutions; and, a well-developed set of program-level student learning competencies based on scientific reasoning and the core principals which build the knowledge and skills of the aspiring scientist.

Natural Science Program Student Learning Competencies:

Upon completions of the Natural Science Program students will be able to:

1. Design or evaluate experiments testing predictions using controls and managing variables (control of variables).
2. Use logic, statistics, probabilities, or proportions to determine an outcome (proportional and probability reasoning).
3. Examine mutual/direct, inverse or lack of relationships between variables (correlation reasoning).
4. Apply scientific principles to make observations, analyze patterns and trends to arrive at an explanatory generalization / testable hypotheses (inductive reasoning).

5. Apply scientific principles to evaluate hypotheses by analyzing or reflecting on experimental data to reach a specific conclusion (deductive reasoning).
6. Demonstrate an ability to gather, evaluate, synthesize, and apply primary scientific and technical literature. (scientific literacy)
7. Identify the role science plays in historical and contemporary issues (human culture).
8. Effectively communicate about sciences and its conclusions to multiple audiences (professional, peers, general public) in multiple formats (interpersonal, verbal, written).
9. Demonstrate an understanding of the standards that define ethical scientific behavior (honesty, safety, social responsibility).

Program Objectives:

1. Develop an external advisory committee. (in progress)
2. Increase course success rates, especially discipline specific introductory courses.
3. Develop a Natural Science flavored COLS 1000 course to better prepare our students for the Natural Science Program.
4. Increase graduation rates for each of the specific concentrations.
5. Decrease average credits to program completion. (completed)
6. Increase transferability of our students to bachelors granting institutions.
7. Develop further articulation agreements with the University of Wyoming and other bachelors granting institutions.
8. Look for potential opportunities to develop certificate programs for in-demand Natural Science related jobs.
9. Look for potential job opportunities to pipeline Natural Science AS graduates.

Operational Effectiveness Objectives:

1. Develop an external advisory committee.
2. Strengthen process for collection and analysis of course and program assessments.
3. Develop processes for acquiring data from IR and its analysis to assess programs.

Service / Outreach Objectives:

1. Maintain and look for new opportunities to collaborate with Public Schools.
2. Develop a constellation of internships opportunities for our students.
3. Develop collaborations with local natural science related agencies, organizations, and business to share expertise, tools and instrumentation, and resources to address local needs and current issues.

E. Abbreviated Summary of Program Data (KPIs)

KPI measures reveal that the program performs well in the student participation category including the 1. annual FTE, 2. number of "participants" enrolled, and 3. number of "concentrators" enrolled. In the student success category, the program performs well for Number of "concentrators" matriculating to university. Areas that require added attention for improvement include the 1. course success rate, and 2. graduation rate for "concentrators" in the student success category and average credits to completion in the efficiency category.

F. Success at Attaining Past Action Plan Goals

Natural Sciences is a new program and does not have a previous program review with action plan goals that could have been monitored for progress over the last five years.

G. Summary of Review Action Goals

1. Average credits to completion - The Natural Science program does not have KPI data for the program, as the program began in the fall of 2015. Based on previous KPI data compiled from the Biology, Chemistry, Wildlife Conservation and Management, and Pre-Pharmacy programs and the General Studies in Sciences and Health Sciences major, we have an average of 83.6 credits to completion for the 2013-2014 academic year. Without knowing what the combination of these individual programs into the Natural Sciences program, we would like to decrease our average credits to completion to 70 credits (Depending on track the Natural Science program requires 60 - 64 credits for graduation). An additional 6 - 10 credits have been added to account for students that are not college ready and require classes prior to entrance to the Natural Science program) by the next academic year (2016 - 2017).

2. Course Success Rate - The Natural Science program does not have KPI data for the program, as the program began in the fall of 2015. Based on previous KPI data compiled from the Biology, Chemistry, Wildlife Conservation and Management, and Pre-Pharmacy programs and the General Studies in Sciences and Health Sciences major, we have a course success rate of 61.8% for the 2014-2015 academic year. Without knowing how the combination of these programs into the Natural Science program will affect the course success rate, we would like to increase our course success rate to 65%.

3. Graduation rate for “concentrators” - The Natural Science program does not have KPI data for the program, as the program began in the fall of 2015. Based on previous KPI data compiled from the Biology, Chemistry, Wildlife Conservation and Management, and Pre-Pharmacy programs and the General Studies in Sciences and Health Sciences major, we have a graduation rate for "concentrators" of 3.23%. Without knowing what the combination of these individual programs into the Natural Sciences program, we would like to increase our graduation rate for "concentrators" to 10%.

H. Discovery: Listing of Strengths, Concerns, Opportunities, and Challenges

As a new program, the Natural Sciences Program has little data regarding effectiveness of planning or goal obtainment, but in compiling this program review it is clear that the Natural Sciences Program goes into the next 5 years with some amazing strengths, a few concerns and as well as some challenges and opportunities.

Strengths

- Natural Science faculty have broad expertise and backgrounds.
- Natural Science faculty are collegial, engaged and passionate.
- Students benefit from a variety of science course offerings in multiple formats, at various times of day and semester, and throughout the academic year.
- Department level goals and action items are aligned with school wide initiatives for curriculum modification.
- Our location provides access to several regional University and agency resources.
- New facilities being constructed to allow for expanded course offerings and research opportunities.

- Administrative level support for an undergraduate research program.
- Natural Science faculty have established connections with other science faculty and community agencies in the region.

Challenges/Concerns

- Process for dissemination of information to prospective students and advisees on programmatic changes.
- It is unknown if desired institutional improvements in course success rates, degree hours to completion and graduation rates are realistic.
- Allocating time to establish articulation agreements with regional institutions beyond the University of Wyoming.
  > Engaging other schools and departments to establish articulation when it is not mandated by their administration.
- Low enrollment courses that are essential for student degree completions are cancelled in a reactionary way, negatively impacting student success (i.e. ZOO2010, CHEM1030, ZOO2020, GEOG1100).
  > These cancellations deter students from considering or remaining at LCCC for their Natural Science degree.
- Loss of faculty advising resulting in reduced or lack of early contact with majors to provide area/career specific expertise on an individual basis.

Opportunities and Goals

- Discuss and finalize program level outcomes.
- Establishment of advisory committee.
- Develop and offer Natural Science specific COLS1000 course.
- Implement entry/exit program assessments to target areas of improvement for student success.
  > Continued collection of data to begin to inform practice changes.
- Increase student investment and engagement in science.
  > Research, internships, student mentors.
- Reach out to additional regional institutions to develop 2+2 plans for articulation.

School	Health Sciences and Wellness
Program Area	**Nursing**
Major Programs	ADN - Associate Degree in Nursing, (70-72 credits)
Review Period	Fall 2010 to Fall 2015
Self-Study Developed	AY 2015-2016
Review Status	Academic Standards Accepted the Program Review Without Contingencies
Program Leaders	Jennifer Anderson
Committee Chair	Kim Bender
Academic Standards Program Review Subcommittee Reviewers	Nate Huseman: Faculty - Arts & Humanities Michele Albert: Faculty – Math & Sciences Kari Brown-Herbst/Jonathan Carrier: Chairs of SLA Committee Julie Gerstner: Student Services Representative Sabrina Lane: Administration and Finance Representative Dave Curry, Rob Benning: 16-17 PR – Automotive Body Repair J. Sanford, J. Carrier, L. Gearhart: 16-17 PR - Psychology

A. Mission, Vision, Values

NURSING PROGRAM MISSION STATEMENT

The LCCC Nursing Program recognizes the values, worth and uniqueness of students and accepts the challenge of providing a pathway for educational and career mobility. The goal of the Program is to develop professional life-long learners through a scientific and holistic approach in a learner-centered environment. Students will be prepared to enter the dynamic field of nursing with knowledge and skills for current and future success at the practical or associate degree nurse level. The following values promote and enhance high standards of nursing practice.

Educational Values

The LCCC Nursing Program's Educational Values are as follows.

We promote academic excellence by:

- Offering a variety of clinical experiences and community service opportunities
- Providing Instructional and technological innovation
- Facilitating growth and development of the healthcare professional

Integrity and Respect

We expect and consistently model integrity and respect by advocating and promoting diverse viewpoints, perspectives, cultures and values through:

- Professional behaviors
- Communication
- Assessment
- Clinical decision making
- Caring interventions
- Teaching and learning
- Collaboration
- Managing Care

B. Brief Program Summary

Overview of Nursing Program

LCCC offers an Associate of Applied Science Degree in Nursing (ADN) with a Practical Nursing (PN) spin-off option. The program is available on the main campus in Cheyenne. The nursing program provides a much needed service to the local and surrounding communities by providing qualified nurses. It also provides a pathway for educational opportunities and career mobility in nursing.

The program is four semesters in length with four prerequisites. However, with the increased numbers of applicants and competition to attain a slot, most students are entering the program with most, if not all, of the general education courses already completed. As such, the ADN program consists of 72 credits, 42 of which are nursing.

Students are eligible to become Certified Nursing Assistants (CNA) by deeming status, from the Wyoming State Board of Nursing (WSBN) upon successful completion of the first semester. There is an application process in place with the WSBN for students that are interested in this option.

After successful completion of the first year a Practical Nursing (PN) spin-off option is available. They are then prepared to take the NCLEX-PN licensure exam and practice as LPNs. The majority of the students take this course and many work as LPNs while completing the second year. Although the regional hospitals no longer utilize LPNs for acute care, Cheyenne and the surrounding region still have several long term care facilities, home health agencies and assisted living facilities that utilize them.

An advanced placement option is also available to LPNs who choose to return to school and complete their ADN. There are 5 dedicated slots available in the 3rd semester and students are accepted based on the admission criteria and completion of the Advanced Placement Application and satisfactory achievement on the LPN Step Placement Exam. This has met community needs.

In addition, there are articulation agreements in place with several universities for students to continue on to the baccalaureate level should they so desire. For a complete list of articulation agreements please visit the website at http://lccc.wy.edu/about. Students may also choose to transfer to another college or university, which is another option, even if an articulation agreement does not exist. LCCC and UW work closely together to make completion of a baccalaureate (BSN) degree an attainable goal for any interested student. UW provides a nursing professor to the LCCC campus once a month for individual student advising for the ADN-BSN option.

Nursing directors from around the state along with the dean of nursing from UW and other key stakeholders are pursuing a statewide nursing curriculum, Revolutionizing Nursing Education in Wyoming (ReNEW) to make educational pathways smoother with fewer roadblocks for students interested in continuing their education. The goal is to ease educational pathways and to ultimately increase the numbers and educational levels of nurses around the state. This curriculum will begin fall 2016.

History of the Nursing Education Unit

In 1971, LCCC offered practical nursing for the first time and graduated its first class in 1972. In response to community need, the Associate of Applied Science Degree in Nursing (ADN) started in 1977. In 1985, LCCC combined the two programs into an ADN program with a Practical Nurse Spin-Off. This enabled the college to meet the community needs for both LPNs and RNs and offered students career options.

LCCC continues to offer several rungs in the career ladder for nurses as noted previously. The flexibility of LCCC's nursing program continues to benefit both the students and the community.

Projected Viability

The data for this section are provided by the Wyoming Department of Workforce Services Fall 2011 report: Health Care Workforce Needs in Wyoming: Advancing the Study. This report notes that "in many cases, Wyoming colleges are not producing enough completers to fill the number of average annual opening" (p. 33). It goes on to state, "Some occupations with a substantial number of shortages included registered nurses ……and licensed practical and licensed vocational nurses". The projected shortage is approximately 6,700 positions, between 2010-2020, or annual openings for the state of 670 RNs with an additional 110 annual openings for LPNs. The Wyoming graduates for 2009 included 444 RNs and 87 LPNs, thereby, leaving a deficit of 222 and 23 nurses, respectively.

The numbers may actually be worse than reported as these "shortages do not take into account the number of college completers who left Wyoming to work in another state" (p. 33). With 25% of LCCC's nursing students being Colorado residents, shortages could be significantly different.

Per the American Nurses Association, 2014, the projected employment growth for nurses over the next decade is 20.1p percent with 3.1 million nurses already in the workforce.

Currently the LCCC nursing program is receiving a significant number of applications each semester and is having no difficulty filling the 40 positions. The program capacity is 170 student with a current enrollment of 163. There are eleven full-time faculty and an additional 10-12 adjunct faculty to meet the program demands. In addition there is a full time director and administrative assistant.
The program director reports to the Health Science and Wellness dean who directly reports to the Vice President of Academic Affairs.

B. Community Impact

The program determines the needs of the stakeholder groups by actively seeking their input. Communities of interest have input into the program in a variety of ways. The director meets with a representative from the largest clinical provider monthly to ensure quality clinical experiences and to address needs of the community. Nursing students provide input in monthly faculty meetings and through student evaluations of both the classroom and clinical experiences. Graduates of the program and employers of those graduates have input into the program through surveys six months after graduation. The program also has a well-developed advisory board which meets with nursing faculty biannually.
Partnerships exist that promote excellence in nursing education, enhance the progression, and benefit the community. Some of those partnerships are:

- Nursing Program Advisory Board
- Numerous Clinical sites—the large ones have a representative on the advisory board
- Nurse Educators of Wyoming (NEW) is made up of the state's seven nursing program directors and the dean of nursing from the University of Wyoming. They meet multiple times throughout the year to work on educational issues.
- Revolutionizing Nursing Education in Wyoming (ReNEW). An active group which is creating a shared, competency-based statewide curriculum where students can earn an associate degree or continue seamlessly to the BSN degree (or higher) starting at any of the community colleges or UW. The courses/clinical experiences needed to complete the BSN through the University will be available through distance delivery.

- Wyoming Center for Nursing and Healthcare Partnerships (WCNHCP)
- Cheyenne Regional Medical Center (CRMC) New Graduate Residency Program Advisory Board

Other ways the program has received input to promote nursing education excellence include: Participation in Consultative Feedback Process, Committee Work, Advisory Board meetings, meetings with individual facilities and staff, faculty meetings, surveys, student input, Wyoming State Board of Nursing Meetings and consultations, Wyoming Center for Nursing and Healthcare Partnerships advisory board meetings, meetings with RENEW, LCCC board of trustees, Nurse Educators of Wyoming, Wyoming Nurses Association, Conferences, and HSW School Meetings.

C. Outcomes

Some strong indicators of exemplary performance are NCLEX-PN and NCLEX-RN pass rates above the national average for the last three years along with a 100% employment rate. For three years of data, please see Standard 6 in the uploaded Systematic Plan of Evaluation.

C. Program Achievements Over the Review Period

In 2010 the nursing program received an interim site visit from the Wyoming State Board of Nursing (WSBN) for increased attrition. The faculty also noted a decrease in NCLEX-RN pass rates (although we remained above the WSBN benchmark). The faculty worked diligently to address both issues and were found to be in full compliance of all standards, in fall of 2011, by both the Wyoming State Board of Nursing and the National League of Nursing Accrediting Commission which is now known as the Accrediting Commission for Education in Nursing (ACEN).

Examples of high-quality program effectiveness include the following.

1. High course success rates i.e. all courses > 90.56%

2. Ninety percent of students who enter the program graduate and attain RN licensure.

3. Licensure rates for both PN and RN above the national average for the last 3 years.

4. Although the program goal is, 95% of new graduates (seeking employment) will be employed within six months of graduation, 100% of graduates have reported employment within 6 months of graduating for the last 3 years.

5. 25% of current students are concurrently enrolled in a baccalaureate program.

For 5 year's worth of data for 3 examples of achievement see below.

NCLEX-PN

2010: 98.51% Goal met. (Nat'l 87.06%)
2011: 95.7% Goal met. (Nat'l 84.84%)
2012: 100% Goal met (Nat'l 81.5%)
2013: Goal met: 97% (Nat'l 84.44)
2014: Goal met: 92% (Nat'l 82.16%)

NCLEX-RN
2010: Goal not met: 78.64%
2011: Goal not met: 76% (Nat'l 87.9%)
2012: Goal Met: 92.69% (Nat'l 90.34%)
2013: Goal Met: 88.9% (Nat'l 83.04% for all US students 81.43% for ADN))
2014: Goal Met: 85% for 2014—Dec. grads test in next year (Nat'l 81.78 all US grads, 79.26% ADN)

New Graduate (ADN) Employment rates
2010:
May: All grads reporting employment
Dec: 75% grads reporting employment
2011:
May: 98% grads reporting employment
Dec: awaiting results
2012: Of grads seeking employment all reporting finding a job.
2013: All students reporting employment in nursing 6-8 months after graduation.
2014: All grads seeking employment found jobs.

D. Program Objectives

Nursing Program Outcomes
The Laramie County Community College Associate Degree Nursing Program uses the following criteria as measures of the effectiveness of the program:
1. **Meets the Standards of the College, Regulatory and Accrediting Agencies**
The ADN program with its Practical Nurse Option will continue to meet the standards of the College, the Wyoming State Board of Nursing and the Accrediting Commission for Education in Nursing.

2. **Program Retention Rates**
There will be satisfactory completion of the second semester of the nursing program by a minimum of 75% of the students who entered the program.
Sixty percent (60%) of the students who entered the nursing program will graduate in four consecutive semesters.
Eighty-five percent (85%) of the students who entered the program through advanced placement (3rd and 4th semester) will graduate.

3. **Licensure Rates of Graduates**
There will be a NCLEX-PN pass rate at or above the national mean for first time writers.
There will be a NCLEX-RN pass rate at or above the national mean for first time writers.

4. **Employment of Graduates**
Ninety-five percent (95%) of new graduates seeking employment of both the PN option and ADN program will be employed within six months of graduation.

5. **Continued Self-Growth and Life-Long Learning**
Eighty percent (80%) of the graduates of the ADN who respond to the graduate survey will indicate:
a. participation in new learning through in-services, continuing education, memberships in organizations and/or subscriptions and community involvement.

b. agree that their basic education in the ADN program provided a foundation on which to pursue an advanced degree or specialty within nursing.

6. **Function Effectively Within Their Nursing Role Utilizing the Eight Core Components**

Eighty-five percent (85%) of the graduates of the ADN who respond to the graduate survey will indicate

a. effective use of the nursing process

b. responses to each question about the graduate's utilization of each of the eight core components

Eighty-five percent (85%) of the employers of the ADN who respond to the employer survey will indicate positive

a. responses to each question about the graduate's utilization of each of the eight core components.

b. adaptability to the facility's procedures, protocols and general environment.

c. response for the graduate's care demonstrating respect for the biopsychosocial patient.

d. rating to growth potential as a member of the nursing profession.

Program evaluation demonstrates that students and graduates have achieved the student learning outcomes, program outcomes, and role-specific graduate competencies of the nursing education unit.

The systematic plan for evaluation of the nursing education unit emphasizes the ongoing assessment and evaluation of each of the following:

- Student learning outcomes;
- Program outcomes;
- Role-specific graduate competencies; and
- The ACEN (NLNAC) Standards.

  The systematic plan of evaluation contains specific, measurable expected levels of achievement; appropriate assessment methods; and a minimum of three (3) years of data for each component within the plan.

E. Abbreviated Summary of Program Data (KPIs)

KPI measures reveal that the program performs well in the student participation category including annual FTE. In the student success category, the program performs well for 1. course success rate, 2. graduation rate for "concentrators", 3. number of Associates and workforce degrees/certificates awarded, 4. number of "concentrators" matriculating to university, and 5. university matriculation rate. For the learning environment category, the program performs well for FTE student to FTE faculty ratio. Additionally, for the efficiency category the program performs well for average section fill rate. An area that requires added attention for improvement includes core expenditures per FTE in the efficiency category.

F. Success at Attaining Past Action Plan Goals

One of the goals that the nursing program published for 2014-15 was: "Students will apply problem solving skills in the context of nursing by utilizing the nursing process to assess, diagnose, plan, implement and evaluate the care to promote patients' optimal health considering cultural/diversity needs and growth and developmental tasks."

This goal was successfully attained. However, this goal will continue as it is a measurement of success that nursing programs are held accountable for by both the Accrediting Commission for Education in Nursing (ACEN) and the Wyoming State Board of Nursing (WSBN).

The program has a leveled clinical evaluation tool with increasing complexity from the start of the program (NRST 1610/1710) to the end with NRST 2640/2740 (see uploaded table labeled "Leveled Clinical Evaluation Tool"). The method of measurement was: "Students will demonstrate their problem solving skills in their NRST 2740 course, taken the final semester of the program. The NRST 2740 course will evaluate the student's clinical competency by evaluating their performance for the eight core program components of: assessment, clinical decision making, professional behaviors, communication, caring interventions, teaching and learning, collaboration, and managing care. Students will be assessed using the LCCC institutional Problem Solving Rubric and the Clinical Evaluation Tool. Results will be shared with department faculty. Department faculty will use the results to identify strengths and/or limitations to direct curriculum changes which may include simulation or clinical experiences".

All students completing the last clinical course, NRST 2740, were found to be proficient on the clinical evaluation tool. If the students are proficient on the clinical evaluation tool, that should translate into high licensure exam pass rates, which was the expected level of learning performance. The Accrediting Commission for Education in Nursing (ACEN) sets the acceptable standard for acceptable pass rates which is: "The program's 3-year mean for the licensure exam pass rate will be at or above the national mean for the same 3-year period." The acceptable pass rate for the Wyoming State Board of Nursing is 75% or above.

The nursing program has met both standards for the last three years.

G. Summary of Review Action Plan Goals

Action Plan Goal One: NCLEX-RN Profile Reports will indicate program achievement at a minimum percentile rank of 50 for each of the seven areas on the graphs for all ADN programs.

Action Plan Goal Two: 85% of students will score > 55% overall correct on the Kaplan RN Readiness Exam.

Action Plan Goal Three: NCLEX-RN will be at or above the national mean.

Action Plan Goal Four: 60% of students entering the nursing program will graduate in four consecutive semesters.

Action Plan Goal Five: 95% of new graduates (seeking employment) will be employed within six months of graduation.

H. Discovery: Listing of Strengths, Concerns, Opportunities, and Challenges

Strengths:

- Well qualified, experienced faculty
- High Completion Rates
- Strong NCLEX PN & RN licensure pass rates
- Satisfied graduates
- Satisfied employers
- 100% job placement rates for graduates seeking employment

Challenges/opportunities:

- Implementation of new curriculum fall 2016
- Keeping pass rates high with new curriculum
- Keeping student completion rates high with new curriculum

School	Health Sciences and Wellness
Program Area	**Physical Therapist Assistant**
Major Programs	A.A.S. Physical Therapist Assistant, (71 credits)
Review Period	Fall 2010 to Fall 2015
Self-Study Developed	AY 2015-2016
Review Status	Academic Standards Accepted the Program Review Contingent Upon Submission of a Follow-Up Report
Program Leaders	Sarah Hughes and Celeste Enzi
Committee Chair	Kim Bender
Academic Standards Program Review Subcommittee Reviewers	Karen Lange: Associate Dean – Library & Learning Commons DeeJaay Beals: Faculty - BATS Meghan Kelly: Librarian Kari Brown-Herbst/Jonathan Carrier: Chairs of SLA Committee Julie Gerstner: Student Services Representative Sabrina Lane: Administration and Finance Representative Jeri Griego: 16-17 PR – Business Management James Burghard: 16-17 PR – Homeland Security

A. Mission, Vision, Values

Mission Statement

The primary mission of the Physical Therapist Assistant (PTA) program at Laramie County Community College (LCCC) is to provide a high quality education in physical therapy in order to produce certified, professional, ethical, and competent practitioners in the field with a strong potential for advancement and leadership.

PTA Program Philosophy

The Physical Therapist Assistant (PTA) program philosophy is committed to a high standard of educational excellence while promoting learner responsibility, effective communication, critical thinking, and collaboration. We educate entry level PTA practitioner generalists that adhere to professional, ethical, and legal guidelines of the profession to serve our communities. Our students are focused on safe and effective care. We strive for excellence in all aspects of student education. Student learning is focused on the theory, knowledge and application of clinical skills essential to the entry level PTA. The curriculum is designed for the optimal use of technical innovation, hands on learning, and thorough practical clinical education. This structure drives our emphasis on technology and communication to facilitate learning in the classroom and the clinic. Graduates will meet the diverse needs of employers and the community while providing high quality patient care under the direction and supervision of a physical therapist.

The Physical Therapist Assistant (PTA) is a skilled health care worker who assists the physical therapist in providing physical therapy treatment interventions to patients and/or clients in a variety of practice settings. Duties of the PTA are varied and may include, but are not limited to, the rehabilitation of adult and pediatric clients with orthopedic, neurological, traumatic injuries, and various medical conditions through the application of physical modalities, exercise programs, gait training, functional activities, and patient education. The PTA must obtain a license/certificate to practice in Wyoming. A majority of other states also regulate the PTA primarily through licensure and/or certification.

The PTA program mission supports the LCCC mission in 3 or the 4 college missions. 1. The PTA program supports the success of students by completing college level courses in their field of study that is contemporary for practice. 2. The PTA program is designed for entry level employment and does not articulate for a Bachelor's degree. 3. The PTA program supports the college mission for workforce development by producing PTA's that practice in a professional and ethical manner and show the potential for advancement in the work place. 4. The PTA program supports the needs of the community by developing skilled PTA practitioners to provided services to patients in the surrounding area.

The PTA program seeks to prepare students to assume a professional and active role within the physical therapy community. The program will:

1. Produce PTA's prepared to competently meet the entry level duties of a PTA in a variety of settings;

2. Produce PTA's prepared to successfully complete the National Physical Therapist Assistant Examination (NPTAE);

3. Develop and deliver an integrated academic program leading to the successful completion of the guidelines developed by the Higher Learning Commission of the North-Central Association of Colleges and Schools, and The Commission on Accreditation in Physical Therapy Education (CAPTE); and

4. Promote the importance of continued personal and professional development through life-long learning and membership in professional organizations, and advance the recognition of the field of physical therapy and the role of the PTA within that field.

The program is driven to continue to improve and develop clinicians for practice. The current graduation rates and Licensure exam pass rates provided below give a testament to the desire of the PTA program to produce successful practitioners for their careers.

Graduation Rate:

Year	2012	2013	2014	2015
Number of students in cohort	20	18	20	21
Number of students that graduated	17	14	20	21
Graduation Rate:	85%	78%	100%	100%
3 year average:	-	-	88%	92%

Licensure Exam Pass Rate (National PTA Exam)

Year	2012	2013	2014	2015*
Number of students approved to test	17	14	20	21
Number of students that tested	14	14	19	-
Number of students that passed	13	13	19	13
Pass Rate:	93%	93%	100%	-
3 year average:	-	-	96%	-
National Average	95%	95%	94%	-

*Data for 2015 graduates is incomplete with students still testing.

B. Brief Program Summary

Laramie County Community College established the Physical Therapist Assistant (PTA) program with the first class of students enrolling in January 2009. The program was developed due to the need of qualified physical therapist assistants in the State of Wyoming and in the region. Laramie County Community College continues to commit the resources necessary to the program and health sciences field, exemplified with construction of the Health Sciences building in early 2009. The new Health Sciences building provides state of the art classroom and laboratory facilities necessary for training physical therapist assistant students.

The PTA Program achieved accreditation in April 2010. Since then, the program has graduated 105 students and continues to fill the need in the state of Wyoming and nationwide. Strong demand for the LCCC graduates is evidenced by employers contacting the program faculty directly to notify them of the regional need for PTA's. Unsurprisingly, our current graduates who pass the National Physical Therapist Assistant Exam have a 100% employment rate.

The PTA Program has undergone several recent changes with the resignations of the Program Director in May 2014 and the Clinical Coordinator in August 2014. An Interim Program Director/Clinical Coordinator was hired in August 2014, and subsequently became the Program Director in November 2014. An Adjunct faculty Clinical Coordinator was hired in September 2014, and then became the full-time Clinical Coordinator in December 2014. The new faculty for the program have provided a fresh perspective to their analysis of the program.

LCCC recognizes and supports the academic and technical education aspects of the physical therapist assistant program much like it supports all other health sciences programs located in the Health Sciences and Wellness School.

Laramie County Community College will award an associate in applied science (AAS) degree to students upon successful completion of all program requirements. The requirements for course completion are available in the LCCC catalog (http://lccc.wy.edu/academics/schedule) and the PTA student handbook.

C. Program Achievements Over the Review Period

The LCCC PTA Program received its initial accreditation from the Commission on Accreditation in Physical Therapy Education (CAPTE) in 2010. The PTA program recently completed a self-study review for CAPTE in January 2015, an on-site review by them in February 2015, along with additional progress reports with reaffirmation of accreditation granted in November 2015. In addition, the program experienced a 100% change in faculty since Fall 2014. The new program faculty were able to complete the CAPTE review, complete a program modification, and updated all program MCOR's from the Fall 2014 to end of Fall 2015. Staff are currently finishing completion of the PTA program review due January 2016.

With all of these high demands placed on the PTA Program Faculty, they have meet and exceeded the expectations placed upon them. Neither faculty members had formal experience in academia and have had to learn the process throughout these experiences.

Other program achievements for the program over the past 5 years have included continued high graduation rates, high licensure pass rates, and 100% employment rates as well. The program even with all of the significant changes has been able to maintain solid outcomes and data for student success. Please refer to the PTA Outcome Data for details.

D. Program Objectives

Objectives (Graduates will be able to):

1. Work under the direction and supervision of a physical therapist in a safe, ethical, legal, and professional manner.
2. Implement a comprehensive treatment plan under the direction and supervision of a physical therapist (PT).
3. Recognize and implement the use of interventions based on outcomes for patients in a variety of settings.
4. Demonstrate effective oral, written, and non-verbal communications skills with the patient, Physical Therapist, health care personnel and others in a competent manner.
5. Successfully integrate concepts from the pre-requisite course work, basic sciences and PTA programming into physical therapy practice.
6. Demonstrate a commitment to life-long learning, evidence based practice, and ongoing professional growth and quality improvement in physical therapy practice.

The operational effectiveness objectives for the PTA program include:
1. To maintain CAPTE accreditation, and
2. To have no progress reports needed.

Please review the assessment documentation grid for operational effectiveness objectives, planning objectives, and the use of outcome data to obtain the assessment data. For example, course completion rates are at 100% for all PTAT courses with the exception of PTAT 2030 Functional Kinesiology for the PTA which is at 97.56% completion rate.

E. Abbreviated Summary of Program Data (KPIs)

KPI measures reveal that the program performs well in the student success category including the 1. course success rate, and 2. graduation rate for “concentrators”. In the efficiency category, the program

performs well for 1. average time to completion, 2. average section fill rate, and 3. core expenditures per FTE. For the learning environment category, the program performs well in 1. percent of sections taught by full-time faculty, and 2. FTE student to FTE faculty ratio. Areas that require added attention for improvement include the number of "participants" enrolled in the student participation category, and 2. average credits to completion in the efficiency category.

F. Success at Attaining Past Action Plan Goals

The PTA Program review completed in 2012 identified two areas of opportunity /challenges which were:
1. Opportunities exist for ongoing marketing efforts in and around the region to assist the program impact on the region.
2. Expand the areas in which we draw students so that the immediate area is not saturate with graduates.

Both of these goals have been met by the program with increased recruitment nationally and continued 100% job placement of all students including the students that stay in the Cheyenne area. The program will continue to monitor the employment status of graduate especially in the Cheyenne region.

The recommendations from the 2012 Program Review include:

1. The program should continue in its current format
2. Continue to look for innovative ways to present complex information including (but not limited to) online/hybrid formatting improvements, extension of internship opportunities, and possibly improved student involvement in program assessment.
3. Continue to look for additional funding sources to expand student involvement in community outreach and student participation at the state and national levels.

The program has continued to utilize successful practices from the previous format, while also making necessary modifications to the program. Faculty strive to utilize online resources to support our curriculum including use of D2L. The program has extended clinical practicum opportunities in the region and nationally including increased number of sites in Maine, Utah, Colorado, and Wyoming. Students have become highly involved in program assessment through high percentages of course assessment response rates. The program encourages student involvement within the American Physical Therapy Association (APTA) and students are given the opportunity to become ambassador through the student conclave in the APTA for the State of Wyoming.

G. Summary of Review Action Plan Goals

Goal One: Course evaluation will show students in the PTA program responding at greater than 75% in the "about the same" and "more than areas" for the instructors' ability to manage the class, encourages students, shows respect, is available for assistance, and if the instructor offers additional instruction as needed.

Goal Two: The program will maintain an ultimate pass rate of greater than 90% or higher on the National Physical Therapist Assistant Exam for the most recent 3-year period.

Goal Three: The number of qualified applicants will meet or exceed over 150% of the PTA program capacity (30 applicants).

H. Discovery: Listing of Strengths, Concerns, Opportunities, and Challenges

The strengths of the PTA program include:

- Well qualified, knowledgeable faculty
- High student completion rates
- Strong National Physical Therapist Assistant Exam pass rates
- High graduate satisfaction rates
- High employer satisfaction rates
- 100% job placement rates for graduates passing the licensure exam and seeking employment
- Health Sciences Building is exceptional and equipment is outstanding
- High graduation rates
- High licensure exam pass rates
-Development of a more formal assessment process with the Assessment Process Documentation Grid.

Areas of challenge or opportunity for improvement include:

- Implementation of new program modification beginning Spring 2016
- Keeping pass rates high with the changes in curriculum
- Keeping student performances high for employers with up-to-date evidence-based practice in the curriculum structure.
- Improved curriculum progression
- Review of changes with the program over the next two years
- Improve student clinical application of knowledge
- Change in faculty in the next year
- Development of additional community resources for physical therapy services in the area

The U.S. Bureau of Labor and Statistics for 2014-2024 has identified Physical Therapist Assistants as one of the top five fastest growing occupations and one of the fastest growing occupations with some postsecondary education required and above-average pay.

Additional comment:
The PTA program courses do not follow the block schedules for the college and the course evaluations have not been being released for the students to complete. The program has been working with the college to make sure the students have access to this information but continue to have obstacles with the course evaluations not being able to be accessed by students and no data available for review.

I. Continuous Improvement: Follow-Up Reporting and Planning for Strengthening Program Performance

LCCC uses a process of follow-up reporting to reinforce its continuous improvement system. Program review includes a peer-review step that scores program performance using a Program Review Rubric. Programs perform well on the majority of self-study sections, but occasionally the rubric rating identifies a few areas that need added attention. Rather than let programs strengthen these areas on their own in an ad hoc way, the program review process includes a structured follow-up reporting phase to support program strengthening of these areas. The rubric rating identifies the follow-up reporting areas in May.

In the fall programs develop short-term follow-up reports or long-term action plan goals depending on the scale of the improvement. During the spring the action plan goals are peer-reviewed, and the peer-review teams insert feedback comments within the online planning to help programs realize progress in attaining their action plan goals. This occurs annually until the goal is attained or the next program review is administered.

J. Short-Term Continuous Improvement Follow-Up Reporting

The PTA program completed a short-term report follow-up report in Aquila for the following template section: Section III. Organizational Effectiveness (D.1 Improvements). Because the program already had developed or was about to develop much of the capacity for this section, it selected the short-term report option. It uploaded supporting documentation (Assessment Process Document Grid) as evidence of program capacity for improvement development.

The feedback process for identifying improvements for the program as a whole coincides with the Assessment Process Documentation Grid for the PTA Program. The information in the grid directly relates to expectations by the Commission on Accreditation in Physical Therapy Education (CAPTE) for our accreditation. Built into the feedback process are multiple areas of data collection that are identified by the program including PTA Advisory Committee meetings, faculty meetings, and surveys for employers, graduates, and students, and national board exam pass rates. All of the methods used for identifying and implementing improvements are listed in the Assessment Process Documentation Grid.

Documenting Improvements Over Time: The PTA program will continue to guide its improvement by monitoring all criterion indicated on the Assessment Process Documentation Grid. The Grid was developed by CAPTE and its submission is a requirement in the pursuit and maintenance of program accreditation. Sample criteria that are directly related to the program's organizational effectiveness include the annual review of program policies and procedures, maintenance of adequate clinical sites, annual assessment of program resources, and program enrollment monitoring. The documentation of progress in each of these areas via the grid allows the program to establish improvement goals, timelines, and data collection methods. Implementation and maintenance of the grid could also be considered an implemented improvement to the benefit of the program's effectiveness

One Example of a PTA Improvement: Prior to Fall 2014, the Clinical Performance Instrument (CPI) could be completed online or in a paper format. Storage of the completed paper CPIs included several filing cabinets and there was no way to pull data quickly and efficiently without reviewing all of the files individually. Starting Spring 2015, the PTA program began requiring clinical sites to complete the CPI online for all students. Currently 100% of clinical sites are utilizing the online format and therefore the methods for testing the effectiveness of improvements in the clinical area are simplified. Now, all student data for clinical site performance is located within the database. Data to track student progression in their clinical settings is much easier to obtain. Following this change, surveys to clinical sites have indicated support of the online format. Further testing on improvements included follow-up with the Advisory Committee which supported the change to the online CPI as well.

K. Long-Term Continuous Improvement Follow Up Action Planning

Not Applicable (see part J. above)

School	Business, Agriculture, and Technical Studies
Program Area	**Wind Energy**
Major Programs	A.A.S. Wind Energy, (62-63 credits)
Review Period	Fall 2010 to Fall 2015
Self-Study Developed	AY 2015-2016
Review Status	Academic Standards Accepted the Program Review Contingent Upon Submission of a Follow-Up Report
Program Leaders	Bryan Boatright
Committee Chair	Kim Bender
Academic Standards Program Review Subcommittee Reviewers	Michele Albert: Faculty – Math & Sciences Karen Lange: Associate Dean – Library and Learning Commons Terry Harper: Interim Vice President, Academic Affairs Kari Brown-Herbst/Jonathan Carrier: Chairs of SLA Committee Julie Gerstner: Student Services Representative Sabrina Lane: Administration and Finance Representative Patrick Currie, Nick Siemens: 16-17 PR – Fire science Ashleigh Ralls: 16-17 PR - Radiography

A. Mission, Vision, Values

The Associate of Applied Science degree in Wind Energy and the program is designed for students who want to gain valuable industry skills while pursuing a basic academic foundation. General education requirements, industrial maintenance knowledge and skills, and specific wind power industry topics are combined to provide the groundwork for direct industry employment.

The wind energy program uses its values of safety, documentation and accountability standards. Our values drive faculty and planning for the wind energy curriculum. The measurable values produce a quality education that is verified by our graduation rates. Enrollment has been down, but we are making advancements in recruiting through social, radio, and television media. The local community has been enhanced through our training and placement of students into international renewable energy corporations that hire our wind energy graduates. The wind energy program will make values such as safety and degree completion attainable through the following:

1. Maintaining instructor certifications that comply with OSHA laws and ANSI standards

2. Meeting stakeholders' expectations by placing students into wind energy careers upon graduation

B. Broad Summary of Program

The wind energy program at Laramie County Community College was created in 2008 with the help of a federal grant under the supervision of Terry Cook. The program was designed and implemented by Mr. Cook and Michael Schmidt who is currently with MDA Turbines in Fort Collins Colorado. After the initial offering and supplementation of the career field needs, the program was able to continue the wind energy program on a yearly basis to meet community needs and student interest. With one full-time instructor and a student assistant, we have 10-24 students enrolled with a fall start, and it takes four semesters to graduate. The state of Wyoming has only one dedicated wind energy program with two for profit colleges in Denver who offer an Associates in wind energy. The program's closest competitor is located in Sterling Colorado. The wind energy program has continued to provide the national and

international needs for renewable energy while staying current in industry changes through instructor career development recertification in the DBI SALA Capital Safety Competent Tower Rescue Course, OSHA (Occupational Health and Safety Administration), HYTORC bolt tensioning certification, and Red Cross CPR & AED certification.

C. Program Achievements Over the Review Period

Achievements within the past three years include having every graduate entering the wind industry with the help of the instructor and industry contacts. Accomplishments prior to January 2014 cannot be quantified. Every Friday, the wind energy instructor meets with students to provide guidance on resume design, digital certification, and interview skills with help from the wind energy assistant. The wind energy instructor has established and cultivated partnerships with several wind energy companies to help with student-job placements. The program has successfully used social, print, and television media to help recruit and establish future students for the program.

D. Program Objectives

The wind energy program lists objectives that include program-level student learning competencies and operational effectiveness objectives and planning objectives such as:

- Ensure a safe work environment and meet safety standards,
- Demonstrate a strong foundation in electrical schematic, mechanical maintenance and gear failure analysis,
- Troubleshoot and repair commercial wind turbines,
- Maintain wind turbines (reliability and optimization).,
- Maintain tools, equipment, and inventory,
- Interact and communicate with wind energy manufacturers, subcontractors and operation maintenance corporations,
- Adhere to policies and standards set by LCCC, and
- Conduct training and participate in continuous learning through recertification for climb safety, CPR, and bolt tensioning certifications.

Abbreviated Summary of Program Data (KPIs)

The KPI indicators have shown the wind energy program needs improvement to maintain enrollment. The current instructor has worked to increase graduation and enrollment rates through successfully marketing of the wind energy program using conventional means such as middle and high school tours and unconventional methods such as social media platforms. Furthermore, the addition of professional certifications in the wind industry has increased the marketability of current and future LCCC wind energy students. The program needs to find new avenues in communication, marketing and advertisement to attract students in local high schools.

E. Success at Attaining Past Action Plan Goals

The program did not have a previous program review.

F. Summary of Review Action Goals

The program is forming all of its action plan goals for this 2015-16 review cycle in its follow-up reporting activity located in the planning module of Aquila.

G. Discovery: Listing of Strengths, Concerns, Opportunities, and Challenges

Strengths:

- The most affordable wind energy program in the United States
- Students benefit from strong subject matter experts who work primarily in local wind farms such as Happy Jack and Seven Mile
- As a unique program, past and current administrations have been flexible and supportive
- Strong curriculum and industry-certification guidelines help maintain a quality program
- A MOU between Aeronatica and LCCC allows wind energy students to experience climbing opportunities on F.E. Warren Air Force Base
- Variety of corporations in renewable energy that call, email and video conference to recruit our graduates
- Maintains current training equipment and gathers new technology for future needs in the wind energy industry
- Opportunities to grow and explore new means of educational delivery through hands-on learning and technology

Challenges:

- To remain the premier wind energy program in the region, and the most affordable program in the continental United States.
- Maintaining current training equipment and gathering new technology for future program needs in the industry.
- Continuing growth and exploring new educational delivery means through hands on learning and technology. Industry standards change rapidly.

Concerns:

Maintaining enrollment

Continuous Improvement: Follow-Up Reporting and Planning for Strengthening Program Performance

LCCC uses a process of follow-up reporting to reinforce its continuous improvement system. Program review includes a peer-review step that scores program performance using a Program Review Rubric. Programs perform well on the majority of self-study sections, but occasionally the rubric rating identifies a few areas that need added attention. Rather than let programs strengthen these areas on their own in an ad hoc way, the program review process includes a structured follow-up reporting phase to support program strengthening of these areas. The rubric rating identifies the follow-up reporting areas in May. n the fall programs develop short-term follow-up reports or long-term action plan goals depending on the scale of the improvement. During the spring the action plan goals are peer-reviewed, and the peer-review teams insert feedback comments within the online planning to help programs realize progress in attaining their action plan goals. This occurs annually until the goal is attained or the next program review is administered.

H. Short-Term Continuous Improvement Follow-Up Reporting

The Wind Energy Program has used annual action plan goals to attain its continuous improvement capacity and strengthen program quality.

I. Long-Term Continuous Improvement Follow Up Action Planning

The program has developed several action plan goals spanning three areas: 1. strengthening program capacity to design its curriculum and instructional delivery, measure program performance, and improve its curriculum and instructional delivery based on self-evaluation; 2. strengthening program capacity to design its operational effectiveness, measure program performance, and improve its operational effectiveness based on self-evaluation; and 3. strengthen program capacity to design its planning and goal attainment over time, measure program performance, and improve its planning and attainment of goals over time based on self-evaluation. A sample listing of four planning items that appear in the planning module of Aquila is displayed below.

2. Program review	II.A.1.Process to design the curriculum	1/1/2016	12/31/2020
2. Program review	II.A.2 - Design and manage instructional strategies	1/1/2016	12/31/2020
2. Program review	II.A.1.d - General education	1/1/2016	12/31/2020
2. Program review	II.C.1. - Improvements implemented for knowledge distribution	1/1/2016	12/31/2020

APPENDIX C

2016-2017 Academic Program Review Self-Study Template

I. Program

A. Brief Overview of Program

1.A.1 - Brief Overview of Program

B. Program Achievements Over the Review Period

1.B.1. - Program Achievements Over the Review Period

C. Mission and Values

I.C.1 - Program's Mission and Its Relation to the LCCC Mission
I.C.2 - Program's Value Statements

D. Program Competencies and Outcomes

I.D.1 - Program Level Student Learning Competencies and Operational Outcomes

II. Program Design

A. Curriculum Design

II.A.1 - Process for Designing and Maintaining Its Curriculum
II.A.2 - Sustaining Rigor and Relevancy in the Curriculum
II.A.3 - Course Sequencing
II.A.4 - Current Master Course Outlines of Record (MCORs)
II.A.5 - General Education Coursework and Its Support of the Program's Competencies.
II.A.6 - Faculty Engagement in the Program's Curriculum
II.A.7 - Program Shares Changes to Its Curriculum Design

B. Curriculum Delivery

II.B.1 - Instructional Methods Used to Deliver the Curriculum
II.B.2 - Times and Modalities Used to Deliver the Program's Coursework
II.B.3 - Student Learning Competencies are Consistent Across All Instructors and All Modalities
II.B.4 - Purposeful Engagement of Students in Learning
II.B.5 - Co-curricular Opportunities for Students' Engagement With Each Other, The Campus, and Broader Community

C. Response to Stakeholder Needs

II.C.1 - Programs Identify Their Key Stakeholder Groups
II.C.2 - Using Stakeholder Feedback Information to Make Adjustments to Curriculum
II.C.3 - Processes Used to Gather Stakeholder Feedback
II.C.4 - Strategies for Recruitment That Support Stakeholder Needs

D. Baccalaureate Institution Partnership

II.D.1 - Student Transfer and Relationships with Baccalaureate Institutions
II.D.2 - Process for Reviewing Articulation Agreements
II.D.3 - Current, Signed Articulation Agreement(s)

E. Strategic Partnerships, Collaborations and Industry Alignment

II.E.1 - Diverse Networks of Strategic Partnerships and Collaborations
II.E.2 - Partnerships That Focus on Developing Pathways and Opportunities That Enhance Student Success

F. Program Faculty

II.F.1 - Faculty Proficiency in Instructional Delivery
II.F.2 - Faculty Engagement in Professional Development Activities
II.F.3 - Faculty Engagement in Community Service

G. Program Facilities and Resources

II.G.1 - Functional Facilities and Resources
II.G.2 - Routine Assessment of Facilities and Resources
II.G.3 - Successful Online Components

III. Continuous Improvement

i. Continuous Improvement in Student Learning

A. Feedback/Data Systems

III.i.A.1 - Feedback/Data Systems to Identify and Gather Evidence of Student Learning
III.i.A.2 - Program Analysis of Data and Information
III.i.A.3 - Communication of These Data Among Faculty and With Stakeholders

B. Assessment Planning

III.i.B.1 - Use of Data on Program Competencies to Inform Assessment Plan Development

C. Revised Plans and Strategies

III.i.C.1 - Accomplishing the Assessment Plan Goals or Competencies Established
III.i.C.2 - Revised Planning and Strategies That Strengthen Performance on Student Learning Competencies

ii. Continuous Improvement in Program Operations

A. Feedback/Data Systems

III.ii.A.1 - Feedback/Data Systems to Identify and Gather Evidence for Analysis of Performance on Operational Outcomes
III.ii.A.2 - Analysis of KPI Data to Inform Program Operational Planning and Improve Performance Effectiveness

III.ii.A.3 - Communication of These Data and Program Effectiveness Among Faculty and With Stakeholders

B. Program Operational Planning

III.ii.B.1 - Use of Evidence on Operational Efficiency to Guide Program Planning and Inform Continuous Improvement
III.ii.B.2 - Develop Operational Plans Related To Operational Outcomes That Achieve the Desired Program Enhancements
III.ii.B.3 - Plans Include the Appropriate Components Such As Goals and Data Gathering Methods

C. Revised Plans and Strategies

III.ii.C.1 - Programs Accomplish Operational Outcomes They Establish
III.ii.C.2 - A Documented History of Making Improvements That Result in Improved Program Efficacy

iii. Continuous Improvement as a Result of Program Review

A. Feedback/Data Systems

III.iii.A.1 - Regular Program Engagement in Program Review To Assess Performance on Standards
III.iii.A.2 - Analysis of These Data and Their Collective Synthesis to Understand Their Current Meaning to the Program
III.iii.A.3 - Communication of These Data Among Faculty and With Stakeholders

B. Action Planning

III.iii.B.1 - Development of Action Plan Goals Based on Discoveries Made During the Program Review Process
III.iii.B.2 - Action Plan Goals Represent Actions Desired Over the Next Five Years and Include Appropriate Components

C. Revised Plans and Strategies

III.iii.C.1 - Accomplishing the Program's Action Plan Goals
III.iii.C.2 - A Documented History of Making Improvements To the Program

D. Summary of Program Review Findings

III.iii.D.1 - Identified Strengths, Concerns, Opportunities, and Challenges for Student Learning and Program Operations Resulting from the Review Process

APPENDIX D

2015-2016 ACADEMIC PROGRAM REVIEW RUBRIC

Current Rubric Rating Definitions: SECTION AVERAGES below "3" require additional attention

0	1	2	3	4	5
Program left the narrative section blank	Program provided narrative, but it provided Evidence or examples for none of the expectations found in the "assumed practices".	Program provided evidence or examples for only a minority of expectations found in "assumed practices".	Program satisfies the "assumed practices" description by providing evidence or examples of complying with a majority (2 of 3 or 3 of 5, etc.) of the expectations found in the "assumed practices". ← Weak Evidence[1] Strong Evidence[1] → See explanatory footnote 1 below	Program provided evidence or examples for 90% or all expectations found in the "assumed practices".	Program exceeded the expectations and is exhibiting **best practices**.
[1]if evidence overall is poorly aligned to support program claims of compliance move towards a lower rating, and if evidence overall is strongly aligned to support program claims of compliance move towards a higher rating. **NOTE:** If a program does not provide evidence/examples for an assumed practice expectation, but does provide a concise and descriptive plan for developing that evidence (e.g., includes time lines, individuals responsible, and evaluation method to ensure completion of the planning objective) give credit for evidence development for this assumed practice expectation. For example, if the program has evidence/examples for a majority of expectations but the evidence is weak for most expectations, provide a "2" rating. However, if the program has a majority of expectations and has provided a concise and descriptive plan for each of the expectations having weak evidence, provide a 3 rating.					
*If evidence of significant **barriers unique to the program's structure** prevent compliance for an assumed practice expectation, remove that expectation from consideration. For example, a credit diploma program's use of general education courses.					
*Give positive weight to sections with discussion about the **strengths & concerns of program performance**. For example, we do a good job of developing coherency in our curriculum, but we struggle with keeping it current as it is so technology based. Recent feedback from the program's advisory committee shows that we need to introduce at least one new software package.					

Notes: The assumed practices and guidelines for each section component will appear in the online template. A KPI indicator in the below table represents the average of a section's available percentile scores for a program. For example, the participation section percentile score in the below rubric represents the average of its three related percentile scores (annual FTE, number of participants, and number of concentrators).

Academic Program Review Rubric: Performance on Assumed Practices SECTION AVERAGES (yellow-shaded cells) with ratings below "3" are eligible for follow-up reporting. Black-shaded cells will not be scored by reviewers. Section scope is defined as Design, Self-Evaluation, and Improvements.	
II. Knowledge Distribution	**Score**
A. Design	
1. Process to design the curriculum	
a. Responding to student and stakeholder needs (internal and external)	
b. Verifying and documenting the curriculum: Participation in LCCC's curriculum management process (MCORs)	
c. Developmental Education: Effectiveness of Student Placement and Success in College-Level Courses	
d. General education: Degree/Certificate coherency and relationship with institutional competencies	
2. Process to design and manage the instructional strategies: pedagogy, delivery modes, use of technologies, learning environment	
3. Process to align with student services: student engagement, co-curricular activities, advising, tutoring, & career	
4. Process to ensure academic integrity	
5. Process to align curriculum with secondary education and receiving institutions	
6. Learning Environment and Student Success: Related KPI indicators	
a. KPI indicator: Learning environment section of program percentiles averaged (KPI Score Provided)	
b. KPI indicator: Student success section of program percentiles averaged (KPI Score Provided)	
SECTION AVERAGE	

B. Ongoing program self-evaluation and feedback to inform process improvement and adapt to change	
1. Process to develop a comprehensive feedback system to inform knowledge distribution improvements	
2. Program research findings: results and analysis	
3. Discovery: strengths, concerns, challenges, opportunities revealed and meaning of findings	
SECTION AVERAGE	
C. Improvements and/or changes implemented during the five-year review period Explain the program's process for making the transition from evaluation and findings to defining improvements	
SECTION AVERAGE	
III. Organizational Effectiveness	**Score**
A. Cultural summary of the program: informal workings related to group attitudes, beliefs, and behaviors	
B. Design of the organization	
1. Process for developing and managing policies and procedures	
2. Process for hiring, orienting, evaluating, developing, and rewarding faculty and staff	
3. Process for program interaction with its discipline: professional engagement	
4. Process for managing program demand that includes program promotion (marketing and exposure)	
a. KPI indicator: Participation section of program percentiles averaged (KPI Score Provided)	
5. Process for developing collaborations and partnerships: Diversity of relationships and ease of formation (include systematic management of engagement with the local community and economic needs)	
6. Process to develop and sustain effective communication among faculty/staff and participation in institutional governance	
7. Process for developing efficiencies of operation, monitoring of expenditures, and budget planning	
a. KPI indicator: Efficiency section of program percentiles averaged (KPI Score Provided)	
8. Process for determining resources: library, office space, IR data, & technology for students and faculty/staff	
9. Process for tracking & improving low-rated areas or concerns identified in the previous program review	
SECTION AVERAGE	
C. Ongoing self-evaluation and feedback to inform process improvement and adapt to change	
1. Process to develop a comprehensive feedback system to inform organizational effectiveness improvements	
2. Program research findings: results and analysis	
3. Discovery: strengths, concerns, challenges, opportunities revealed and meaning of findings	
SECTION AVERAGE	

D. Improvements and/or changes implemented during the five-year review period. Explain the program's process for making the transition from evaluation and findings to defining improvements.	
SECTION AVERAGE	
IV. Program Planning	**Score**
A. Design of program planning	
1. Using planning to respond to the changing needs of students and stakeholders (internal and external)	
2. Summarize the alignment of program planning with higher levels of institutional planning	
3. Process for monitoring success on the most recent cycle of program review action goals & a report of progress	
4. Process for developing and sustaining the program's annual planning, both student learning evaluation and program organizational effectiveness planning	
5. Description of program's engagement in this program self-study, in developing its action goals and meeting targeted LCCC strategic planning priorities	
6. Description of the Program's Action Plan Goals Active for the Next Five Years	
SECTION AVERAGE	
B. Ongoing self-evaluation and feedback to inform process improvement and adapt to change	
1. Process to develop a comprehensive feedback system to inform planning improvements	
2. Program research findings: results and analysis	
3. Discovery: strengths, concerns, challenges, opportunities revealed, and meaning of findings	
SECTION AVERAGE	
C. Improvements and/or changes implemented during the five-year review period Explain the program's process for making the transition from evaluation and findings to defining improvements	
SECTION AVERAGE	
V. Conclusion: Capacity for Future Success	**Score**
A. Explanation of how the program will strengthen its resiliency over the next 5 years (diversity of function and personnel, self-organizing capacity, adaptive capacity, and organizational learning)	
B. Program plans to manage change over the next cycle (e.g., capacity to self-evaluate for continuous improvement)	
C. Strength of resource growth and/or contingency planning to compensate for resource shortages	
SECTION AVERAGE	
Self-Study Aggregated Rating (completed by I.E. staff)	

APPENDIX E

Program Review Best Practices Locater, 2016-2017

(For PDF version, use Control and click on item to move to the best practice description. Use Alt and left arrow to move back to the original item.)

I. Program Summary

A. Overview

1. Mission and vision

2. Values of program/unit faculty

3. Program objectives, including program level student learning competencies

4. Engagement of LCCC strategic planning strategies

5. Broad summary of program/unit work

6. Significant program achievements over the review cycle

7. Developing Value in Programming

B. Program Data Presentation: Program Profile Data and Program Review KPIs

II. Knowledge Distribution

A. Design

1. Process to design the curriculum

II.A.1 Process to design the curriculum — PARALEGAL
II.A.1 Process to design the curriculum — DIAGNOSTIC SONOGRAPHY

a. Responding to student and stakeholder needs (internal and external) (e.g., identified key student sub-groups and needs, advisory boards, professional associations and others)

II.A.1.a Responding to student and stakeholder needs — DIAGNOSTIC SONOGRAPHY

b. Participation in curriculum management process (include MCORS, course mapping, articulation of courses)

c. Developmental Education: Effectiveness of Student Placement and Success in College-Level Courses

d. General education: Degree/Certificate coherency and relationship with institutional competencies

II.A.1.d General Education — HISTORY
II.A.1.d General Education — NURSING
II.A.1.d General Education — PARALEGAL

2. Process to design and manage the instructional strategies: pedagogy, delivery modes, use of technologies, learning environment (space, class size, others), experiential learning structure with internships, service learning or others, and rigor (include design of even rigor and competencies across modes)

II.A.2 Design and manage instructional strategies — MUSIC

3. Process to align with student services: student engagement, co-curricular activities, advising, tutoring, & Career

II.A.3 Process to align with Student Services — HVAC-R

4. Process to ensure academic integrity

II.A.4 Process to ensure academic integrity — HISTORY
II.A.4 Process to ensure academic integrity — NURSING

5. Process to align curriculum with secondary education and receiving institutions (articulation/evenness of rigor)

II.A.5 Aligning curriculum with high schools and universities — NATURAL SCIENCES

6. Related KPI indicator(s): Learning environment and student success program percentiles

B. Results: Ongoing self-evaluation and feedback to inform continuous process improvement and adapt to change

1. Process to develop and sustain a comprehensive feedback system to inform program improvement

II.B.1 Develop and sustain a comprehensive feedback system — NURSING

2. Program research findings: results and analysis (illustrated with tables and graphs)

II.B.2 Program research findings: results/analysis — NURSING

3. Discovery: strengths, concerns, challenges, opportunities revealed and meaning of findings

II.B.3 Discovery: strengths, concerns, challenges, and opportunities — COMPUTER SCIENCE

C. Improvements implemented during the last five years (e.g., how many course changes and their effects).

II.C.1 Improvements implemented in the last five years — NURSING

III. Organizational Effectiveness of Program

A. Cultural summary of the program: informal workings related to group attitudes, beliefs, and behaviors

B. Design of the organization

1. Process for developing and managing policies and procedures

2. Process for hiring, orienting, evaluating, developing, and rewarding faculty and staff

3. Process for program interaction with its discipline: professional engagement

III.B.3 Program interaction with its discipline — NATURAL SCIENCES

III.B.3 Program interaction with its discipline — NURSING

III.B.3 Program interaction with its discipline — PARALEGAL

4. Process for managing program demand that includes program promotion (marketing and exposure) (Include communicating the curriculum to potential and current users)
   a. KPI participation program percentiles average

III.B.4 Managing program demand — PARALEGAL

5. Process for developing collaborations and partnerships: diversity of relationships and ease of formation (Include systematic management of engagement with the local community and economic needs)

III.B.5 Developing Collaborations/Partnerships — NATURAL SCIENCES

6. Process to develop and sustain effective communication among program faculty/staff members and with other campus entities.

III.B.6 Communication — HVAC-R

7. Process for developing efficiencies of operation, enrollment management, and budget planning
   a. KPI efficiency program percentiles average (D4-cost per FTE)

8. Process for determining resources: library, office space, IR data, and technology for students and faculty/staff

III.B.8 Process for determining resources: library, space, IR services, & technology — ART

III.B.8 Process for determining resources: library, space, IR services, & technology — DIAGNOSTIC SONOGRAPHY

III.B.8 Process for determining resources: library, space, IR services, & technology — NURSING

9. Process for tracking & improving low-rated areas or areas of concern identified in the previous program review

C. Results: Ongoing self-evaluation and feedback to inform continuous process improvement and adapt to change

1. Process to develop and sustain a comprehensive feedback system to inform program improvement

III.C.1 Develop and sustain a comprehensive feedback system — BUSINESS & FINANCE/ ACCOUNTING

2. Program research findings: results and analysis

3. Discovery: strengths, concerns, challenges, opportunities revealed, and meaning of findings

D. Improvements implemented during the last five years (e.g., list organizational changes & their effects)
(Explain the program's process for making the transition from evaluation and findings to defining improvements.)

IV. Program Planning

A. Design of program planning

1. Responding to the changing needs of students and stakeholders (internal and external)

2. Summarize the alignment of program planning
(e.g., linking of past goals to annual planning, to program review action planning, and to LCCC strategic planning)

3. Process for monitoring success on the most recent cycle of program review action goals & a report of progress

4. Process for developing and sustaining the program's annual planning for both student learning evaluation and program organizational effectiveness planning. (Include the alignment and integration strategies)

IV.A.4 Developing program's annual planning competencies & outcomes **BUSINESS & FINANCE/ ACCOUNTING**

5. Description of program's engagement in this program review self-study, in developing its action goals and meeting targeted LCCC strategic planning priorities

6. Description of the Program's Action Plan Goals Active for the Next Five Years

IV.A.6 Action Plan Goal **HVAC-R**

B. Results: Ongoing self-evaluation and feedback to inform planning process improvement and adapt to change

1. Process to develop and sustain a comprehensive feedback system to inform program improvement

2. Program research findings: results and analysis

3. Discovery: strengths, concerns, challenges, opportunities revealed, and meaning of findings

C. Improvements implemented during the last five years (e.g. how many planning changes and their impact)
(Explain the program's process for making the transition from evaluation and findings to defining improvements.)

V. Conclusion: Capacity for Future Success

A. Explanation of how the program will strengthen its resiliency over the next five years
(features of resiliency include diversity of function and personnel, self-organizing capacity, adaptive capacity, and organizational learning)

V.A.1 Program strengthens its resiliency over time **NATURAL SCIENCES**

B. Program demonstrates that it has the capacity to effectively manage change over the next review cycle (e.g., capacity to forecast or scan the environment for client NEEDS, capacity to design appropriate program responses, capacity to self-evaluate for learning program strengths and concerns in PERFORMANCE, and the capacity for transforming evaluation findings into improvements).

C. Strength of resource growth and/or contingency planning to compensate for resource shortages.

V.C.1 Strength of resource growth and/or contingency planning for resource shortages **ART**

Supplement Details to Best Practices Locater

I.A.1 Mission and vision **BUSINESS & FINANCE/ACCOUNTING**

MISSION of the A.S. Degrees

To inspire student learning and provide a high quality, affordable associates degree which transfers into a baccalaureate program at a four-year institution.

VISION of the A.S. Degrees

The LCCC Business Educational Team is committed to transforming the lives of students and enhancing our community through inspired learning, excellence in teaching and creative co-curricular activities. Together with our students, we contribute to our community's intellectual, cultural, and economic development.

The Business programs provide academic preparation for successful transfer to four-year institutions and completion of a baccalaureate degree. Established partnerships with baccalaureate institutions create pathways for our students to achieve academic success.

I.A.1 Mission and vision **HISTORY**

LCCC's History Program is committed to introducing students to the breadth and depth of the human experience through a comparative study of past and contemporary societies and cultures. It also serves to develop their ability to conduct research, analyze and assess evidence, and articulate sound conclusions both orally and in writing. All of our students acquire knowledge and skills that help them develop as informed, engaged, and thoughtful citizens. The study of history, therefore, plays a unique and central role in liberal arts curriculum. History majors in particular will be prepared to pursue successful careers as teachers, academics, lawyers, civil servants, journalists, and of course historians in private or public agencies.

The History Program provides students a firm academic foundation for successful transfer to four-year institutions and with the critical-thinking skills necessary to succeed academically as they continue their college career.

I.A.2 Program values **BUSINESS AND FINANCE/ACCOUNTING**

VALUES of the A.S. Degrees

- Excellence in teaching within high quality, student-centered undergraduate education involving active learning.
- Collaborative relationships with baccalaureate institutions, ensuring high level academic preparation and low impact student transfer.
- Transferability of curriculum through strategic curriculum mapping, ensuring student transferability and completion of higher level degrees.
- Pathways to success enables students to navigate the next four years of their education and ultimately completing a baccalaureate degree.
- Growth and development of students and faculty through active participation in classroom, professional, and college development.
- Respect for the diversity of people, including their varied perspectives, experiences and worldviews.
- Active involvement in shared governance, consensus-building, teamwork, open and effective communication, and respectful, ethical behavior.
- Engagement of students in the curriculum and college experience, creating a community of learning.

I.A.2 Program values **MUSIC**

- The placement of primary emphasis on development of student musicianship and music preparation for further education or a professional career.
- Production of high quality Associate of Arts degrees that are accepted at four-year baccalaureate programs and generate high rates of successful transfer for music students.
- Community service and enrichment through inspired performances

I.A.2 Program values **NATURAL SCIENCES (BIOLOGY)**

Natural Science Program and its related faculty value:

1) Students and their success. LCCC, its programs and its employee's central value should be our students and their success. This was the driving purpose for the creation of LCCC. The Natural Science Program and its faculty strive to make this our focus and improve student success. To this end over the last five years we have redeveloped our separate programs into the Natural Science Program with the intention of improving student success by increasing recruitment, retention, graduation rates, transferability, and opening up opportunities for students to practice their skills and to gain experience. We have tried to clearly define course and program competencies and learning out comes as wells as expectations and design assessment pieces that will evaluate our effectiveness. We have also developed and continue to develop support structures to identify high risk students, students in need of early interventions, and students who are ready for greater challenges. Finally, we have designed program sequencing and are developing other mechanisms which ensure all Natural Science Program students engage with Program faculty and develop interpersonal relationships which encourage open communication and foster mentoring.

2) Faculty professional development. To support our first value (students and their success) it is important that Natural Science Program faculty keep themselves current and connected in their areas of expertise, active in the process of science, and engaged in improving student learning. Furthermore, faculty are most effective if they are energized educators. Allowing for and supporting diverse faculty professional development activities supports these values. The Natural Science Program faculty engage in a diverse array of professional development experiences including (but not limited to): attending professional meetings and workshops, membership in professional societies, continued credentialing, attending trainings, participating in articulations with K-12 schools, community colleges and universities, conducting and collaborating in authentic research, collaborating with government entities, scientific organizations, and other groups related to their field and in dealing with current issues, and complete college courses to name a few examples. See section "I.A.6. Significant program achievements over the review cycle" for detailed examples of the professional development in which Natural Science Program faculty are engaged.

3) Community engagement. LCCC is by its very name a "community college," was created to serve the community through education and derives most of its funding from community tax dollars. As such LCCC its programs such as the Natural Science Program and its employees serve the community. While our central value is our "students and their success" this can only be partially achieved if our faculty and students are not participating members of the community we serve. Furthermore, since our faculty and students have (or are gaining) specialized experience, skills, tools, and instrumentation they are in a unique position to use these specializations to serve the community while also fulfilling our educational goals. Furthermore, education of the community should not be limited to in the classroom or college level courses. Natural Science Program faculty are engaged in our community through many diverse avenues including: participating in articulations with K-12 schools, community colleges and universities, conducting and collaborating in authentic research, collaborating with government entities, scientific organizations, and other groups related to their field and in dealing with current issues, and providing opportunities for members of the community to learn and grow to name a few examples. See section "I.A.6. Significant program achievements over the review cycle" for detailed examples of Natural Science Program faculty community engagement.

I.A.3 Program objectives, including learning competencies ART

The LCCC program of study in art is designed to provide students with training in the concepts, techniques, and methods unique to two and three-dimension visual art mediums. Through a program of study that includes art history, theory, appreciation, and studio art, degree seeking students and community members have academically directed access to the knowledge, skills and attitudes required for traditional and new approaches to problem solving in specific visual art media.

Program Level Learning Competencies:

1. Facilitate the development of the knowledge, skills and motivation that will enable students to pursue learning experiences on their own, both in general education and in art.
2. Achieve optimum development of students' aesthetic awareness and its relationship with their other academic, vocational and leisure-time skills.
3. Develop a solid foundation of art knowledge, skills and attitudes needed for successful transfer to a four-year institution and/or art institute.
4. Introduce students to the language of the visual arts through exposure to a variety of media, vocabulary, history, theory, and materials.
5. Enable students to apply visual techniques and vocabulary necessary to design 2-D and 3-D works of art based on foundational ideas presented in art history and theory.
6. Provide students with hands-on experiences with studio materials and instruction so that they are able to develop individual solutions to studio situations that can apply to day-to-day problem-solving skills.

Organizational Effectiveness Outcomes

1. Develop articulation based completion curriculum based on standing articulations to benefit student matriculation.
2. Created new relationships with a broader group of articulating institutions.
3. Evaluate, define, and establish levels of professional development for faculty that benefit the academic setting and college at large.
4. Evaluate and analyze annual completion data for needed revisions or documentation of successful curricular activities.

I.A.3 Program objectives, including learning competencies BUSINESS & FINANCE/ACCOUNTING

The Business Department have identified specific program learning competencies that also align with LCCC institutional competencies. These competencies are based off articulation discussions around what makes a successful business transfer student. The department will annually update these competencies as needed to ensure our students are successful in achieving their educational goals. The department will continuously assess and develop new strategies to ensure these competencies are being achieved at the highest level.

- Competency 1: Students apply problem solving skills in the context of business, including analysis of the problem, application and execution of business tools, reflection and evaluation of the problem, and finally consideration of implications and future tasks.
- Competency 2: Students apply collaborative skills in the context of business to accomplish a specific goal, including the proper use of cooperation, feedback, and conflict management while considering the differing perspectives of a dynamic team.

The Business Department has identified the following objectives. These objectives are based on a successful business transfer student. The department will annually update these objectives as needed to ensure our students are successful in achieving their educational goals. The department will continuously assess and develop new strategies to ensure these objectives are being achieved at the highest level.

- Objective 1: The program will strengthen its process(s) to increase graduation rates.
- Objective 2: The program will strengthen its process(s) to increase the transfer rate of students into baccalaureate programs.
- Objective 3: The program will strengthen its process(s) to increase the graduation rate of students in baccalaureate programs at UW.

I.A.3 Program objectives, including learning competencies NATURAL SCIENCES (BIOLOGY)

The faculty within the Natural Sciences Program have identified program objectives which help strengthen the program through: outreach, recruitment and retention initiatives; a focus on success through completion of courses, graduation, and successful transfers to 4-year institutions; and, a well-developed set of program-level student learning competencies based on scientific reasoning and the core principals which build the knowledge and skills of the aspiring scientist.

Natural Science Program Student Learning Competencies:

Upon completions of the Natural Science Program students will be able to:

1.Design or evaluate experiments testing predictions using controls and managing variables (control of variables).
2.Use logic, statistics, probabilities, or proportions to determine an outcome (proportional and probability reasoning).
3.Examine mutual/direct, inverse or lack of relationships between variables (correlation reasoning).
4.Apply scientific principles to make observations, analyze patterns and trends to arrive at an explanatory generalization / testable hypotheses (inductive reasoning).
5.Apply scientific principles to evaluate hypotheses by analyzing or reflecting on experimental data to reach a specific conclusion (deductive reasoning).
6.Demonstrate an ability to gather, evaluate, synthesize, and apply primary scientific and technical literature. (scientific literacy)
7.Identify the role science plays in historical and contemporary issues (human culture).
8.Effectively communicate about sciences and its conclusions to multiple audiences (professional, peers, general public) in multiple formats (interpersonal, verbal, written).
9.Demonstrate an understanding of the standards that define ethical scientific behavior (honesty, safety, social responsibility).

Program Objectives:

1.Develop an external advisory committee. (in progress)
2.Increase course success rates, especially discipline specific introductory courses.
3.Develop a Natural Science flavored COLS 1000 course to better prepare our students for the Natural Science Program.
4.Increase graduation rates for each of the specific concentrations.
5.Decrease average credits to program completion. (completed)
6.Increase transferability of our students to bachelors granting institutions.
7.Develop further articulation agreements with the University of Wyoming and other bachelors granting institutions.
8.Look for potential opportunities to develop certificate programs for in-demand Natural Science related jobs.
9.Look for potential job opportunities to pipeline Natural Science AS graduates.

Operational Effectiveness Objectives:

1.Develop an external advisory committee.
2.Strengthen process for collection and analysis of course and program assessments.
3.Develop processes for acquiring data from IR and its analysis to assess programs.

Service / Outreach Objectives:
1.Maintain and look for new opportunities to collaborate with Public Schools.
2.Develop a constellation of internships opportunities for our students.
3.Develop collaborations with local natural science related agencies, organizations, and business to share expertise, tools and instrumentation, and resources to address local needs and current issues.

I.A.4 Engagement of LCCC strategic planning strategies HISTORY

The History Program related to the Laramie County Community College Strategic Plan Strategies Ai, Bii, Diii, Ei, and Eii as indicated in the LCCC Strategic Plan, 2013-2020.

A.i. Target populations in the community that are under-represented in the LCCC student body: The History Program proposes to offer history classes at the Cheyenne VA Medical Center or at the Pointe Frontier Retirement Community. These locations would provide a population of students who are often overlooked and under-served and would promote a goal of lifelong learning.

B.ii. Develop and deliver a strong, holistic system of student advising that assigns every student a single case manager to follow her/him throughout their educational journey: The support of this strategy is self-evident. Our faculty have been exemplary in their efforts to retain majors in our program as well as to encourage their completion of their degree. A clear example of this would point to the History Program's record breaking graduation rate in the spring of 2014. Professor Ludwig personally contacted and met with each student enrolled in the History Program and assisted them in the development of a clear plan to reach their goal of graduation. The efforts on the part of Professor Ludwig and of others teaching for the History Program demonstrate our commitment to recruiting, retaining, and matriculating our students. However, this approach to advising is not reserved only to History Program students--our faculty have their thumbs on the pulse of all of our students and provide advice and assistance whenever possible in an effort to encourage every student's success in college and the accomplishment of their goals.

D.iii. Completely redesign our academic programs so that college-ready, full-time students would be able to complete certificate programs in one year, and associate degrees in two years: The History Program has successfully renewed its articulation agreement with the University of Wyoming History Department. Students graduating from our program with an AA will be able to flawlessly transfer from LCCC to the University History Program with having earned 60 hours of credit.

E.i. Develop and implement a LCCC General Education Core that stems from essential learning outcomes, ensure it is incorporated into all transfer programs (AA and AS degrees), and when completed results in a Certificate of General Studies: All of the History Program's courses already had been approved as part of LCCC's General Education Core and meet the requirements for Human Culture--Cultural Awareness. In addition, three of our classes are approved for the State Constitutionally mandated V requirement--United States and Wyoming Constitution.

E.ii. Ensure that all applied programs (Certificates and AAS degrees) include coursework, stand-alone or integrated, that leads to institutional students learning outcomes: The majority of our courses are integrated courses that incorporate information literacy, verbal communication, and cultural awareness.

I.A.4 Engagement of LCCC strategic planning strategies NATURAL SCIENCES (BIOLOGY)

The Natural Sciences Program is, or intends to be, engaged in the following LCCC Strategic Plan Strategies:

Goal 1: Completion Agenda for the 21st Century
Increase the number of students earning high-value credentials by reinventing the College's programs and services to be designed for the 21st century learners and aligned to drive the economic and social futures of Southeastern Wyoming.

A.iii. Design and launch new academic programs aligned with current or emerging community, state, or national needs. Within the Natural Sciences Program, there are many disciplines which will lend towards the offering of specific tracks or concentrations on which students can focus. This will prepare them for greater success as they move into a related, natural science field at a four-year institution. The breadth of science disciplines in this program also affords the opportunity to create more specific concentrations which will align with emerging needs within the local, state, regional and national community. An example of this is the proposal to offer a Geospatial Technology Certificate within the Natural Sciences Program. These are a set of skills which are highly desirable in the workforce within the sciences - especially biology, wildlife management, environmental resources, and others.

A.iv. Develop an LCCC Online enterprise with sufficient autonomy to purposefully grow offerings and enrollment in distance education using cutting-edge course design and innovative instruction. Most of the disciplines within the Natural Sciences Program currently have a strong online/hybrid presence, particularly in the high need general education courses. We have been innovative and on the cutting edge as far as offering fully online lab science courses, which have been proven to be flexible and convenient for the online seeking student, yet rigorous enough to meet the same criteria and fulfill the same course competencies and expectations as the on-campus sections. The expectations of the Natural Sciences Program are to increase online/hybrid offerings while maintaining high course quality as the program evolves. While many courses are successful in various modalities, several science major courses must be taught with a face to face component due to specialized equipment and student safety.

B. Implement research-based, high-impact practices for early and ongoing student engagement in the educational process. High-impact practices are generally inherent in science courses due to the nature of hands-on labs, field work, experimentation and introduction to research. The Natural Sciences Program intends to continue these types of student engagement strategies while also pursuing new and greater numbers of high-impact practices as the program expands. Examples include: acquisition of an electron microscope, proposal to build an Augmented Reality Sandbox, construction of outdoor laboratory facility on campus, and continued field work/experience opportunities in the local and regional area (i.e., Belvoir Ranch M.O.U. with the city, Yellowstone field courses and research, collaboration with Laramie County Conservation District in the construction and use of living laboratory).

B.ii. Develop and deliver a strong, holistic system of student advising that assigns every student a single case manager to follow him/her throughout their educational journey. Natural Science faculty work closely with the holistic advisors to create an understanding, open and clear dialog to ensure students are directed through their coursework in an efficient and effective manner. By having each student meet with their holistic advisors to create an academic plan by the end of their first term, this plan can be referenced and reviewed frequently to ensure all coursework taken follows the plan. If there are deviations from that plan, advisors and faculty can discuss the deviations to ensure that students can transfer successfully and in accordance with the student's educational goals. This will lead to a reduction in the number of credits a student takes at their time at LCCC to both save the student money, time, and ensure successful and smooth transfer to a 4 year institution.

B.iii. Implement a system to ensure all students have an academic plan on file by the end of the first term and reviewed frequently that maps their coursework and milestones from the start of their education journey to completion. This goal goes hand in hand with I.B.ii. Natural Science faculty regularly meet with the holistic advisors to ensure clear communication of changes, obstacles, frustrations, and positive accomplishments within the program. This allows the students' dedicated advisors to be up to date on academic plans, course scheduling, and a student's progress towards

their educational goal. Advisors and Faculty work together to make Faculty Connections Day a success, match students with appropriate faculty mentor, and alter a student's academic plan to match changing educational goals. This close collaboration allows students to receive correct and clear information from both their holistic advisor and faculty mentor regarding their academic plan, and allows students to smoothly move through their course work without needless repetition of courses or taking courses not within their plan or that will not transfer according to articulation agreements already in place. Again, this will lead to a reduction in the number of credits a student takes at LCCC prior to completion of the Natural Science degree, or transferring to a 4 year institution.

B.v. Establish learning communities for at risk students that utilize prescriptive coursework and programming to provide support systems and guidance these students need to succeed in achieving their educational goal. At risk students are being identified through the common use of Starfish to flag students exhibiting at risk behaviors. These students are alerted that their instructor has concerns for their success in the course based on behavior patterns, failing grades, or other such indicators. Students and faculty then have the opportunity for discussion regarding successful behavior patterns, study skills, tutoring, and other positive actions to help the student back on track to achieve their educational goals. Students also have access to Supplemental Study Leaders, which collaborate with the instructors and the Student Success Center to provide the students with a nurturing learning environment outside of the classroom or instructors' office.

D. Establish clear academic pathways based on curriculum designed to help students achieve important learning outcomes and to help them progress through academic milestones and ultimately completion. One of the primary goals of this new program in natural sciences is to prepare students with a holistic and quantifiable academic preparedness in the science disciplines. This approach will afford them multiple pathways into the selection and completion of the next stage in their academic careers having a solid first and second year science background.

D.iii. Completely redesign our academic programs so that college-ready, full-time students would be able to complete certificate programs in one year, and associate degrees in two years. The Natural Science program was designed in collaboration with the faculty at University of Wyoming to ensure all general education courses and the entry level courses of each track aligned with the first two years of several degrees. The 8 tracks in the Natural Science program will have separate articulation agreements to allow students that complete these tracks a 2 + 2 academic plan, without repetition or extraneous coursework. 5 of 8 articulations are already in place.

D.iv. Publish all program curricula in ways to illustrate the progressions for full-time and part-time students to complete their chosen program of study. The course progressions for all 8 tracks in the Natural Science program are published in the LCCC Catalog.

E.i. Develop and implement a LCCC General Education Core that stems from essential learning outcomes, ensure it is incorporated into all transfer programs (AA and AS degrees), and when completed results in a Certificate of General Studies. The science disciplines which are included in the Natural Sciences Program offer many of the General Education Core classes as part of the overall LCCC Gen. Ed. redesign. The natural sciences faculty have all been heavily involved in this process and have been actively incorporating these essential learning outcomes and institutional competencies within their courses. Furthermore, articulation agreements in most, if not all, the science courses - whether a program, or class by class - have been approved with UW; and, in a few cases other institutions.

E.ii. Ensure that all applied programs (Certificates and AAS degrees) include coursework, stand-alone or integrated, that leads to institutional student learning outcomes. Within the overall offering of an AS degree in Natural Sciences, the program also intends to offer certificates or potential applied degrees as accompanying skill-sets. One example is the launching of a Geospatial Technology Certificate which will equip students from the Natural Sciences Program (or other

students outside the program) with the knowledge, skills and abilities in this rapidly emerging field; which, are highly recommended by employers of all industries as well as prerequisites for Baccalaureate and higher educational programs.

Goal 2: Connections that Improve Student Transitions

Strengthen relationships and connections with key community partners, such as K12, UW, other four-year institutions, and business and industry to improve student transitions between educational entities and into the workforce.

B. Strengthen academic alignment of LCCC Associate's of Arts and Science's degree programs to promote student completion and successful transfer to UW an other four-year colleges and universities. Articulation agreements in most, if not all, the science courses - whether a program, or class by class - have been approved with UW; and, in a few cases other institutions. The Natural Sciences Program at LCCC is unique in that it is a new program and encompasses a wider scope for our students within the realm of science preparedness. UW does not offer a similar program, but does have individual science programs with which we have articulated (i.e., Biology 2+2, Geology 1+3, etc.). As we continue to build and strengthen our program at LCCC, there may be opportunities for a more inclusive articulation with UW or other institutions in the future. A trend in higher education is the acknowledgement of interdisciplinary education and experiences and across department collaboration. The hopes of the Natural Sciences Program at LCCC is that we are ahead, or at least on, the curve of this paradigm shift.

B.i. Establish program articulation agreements with four-year institutions that map the entire degree program sequence which illustrates a coherent pathway to a bachelor's degree and guarantees seemless transfer if students adhere to the pathway. Articulation agreements with the University of Wyoming have been established for 5 of 8 tracks of the Natural Science program. These pathways, with course sequence, have been published in the LCCC Catalog and are made clear to the students in discussion with their holistic advisors and faculty mentors.

B.ii. Strengthen and expand reverse transfer system in partnership with UW and other four-year institutions that allow LCCC students who transfer without completing a degree the opportunitry to earn the credential once requirements are met as result of coursework taken at the university. Along with discussions with holistic advisors and faculty mentors, students will be tracked after transfer to four-year institutions to continue communication regarding their degree at LCCC. With the holistic advising model, advisors will be aware that students are transferring to a four-year institution prior to graduating with a degree from LCCC. These students will be made aware of the process and benefits of reverse transfer. Once students have completed the requirements for the AAS or AS from LCCC, students will be contacted and reminded of the reverse transfer process.

B.iii. Articulate the new LCCC General Education Core with UW so that students transfer their first-year general education coursework in a block and satisfy the UW general education requirement. The Natural Science program is designed as such students that complete the degree will have also completed the general education requirements for the University of Wyoming. After completion of the Natural Science degree and transfer to UW, the UW general education core will be completed and no coursework will need to be repeated or additional coursework taken to fullful the UW general education requirements.

C. Expand relationships with business and industry partners to ensure programs are aligned with employer needs. Many of the faculty within the natural sciences have developed relationships with business and industry through field trips, work experiences (volunteer and paid internships), research collaboration (INBRE), and guest speaker or lecture invitations. These relationships have previously been more isolated within each department, nevertheless, still greatly beneficial to our students. The expansion and improvement of these relationships will come with the integration of

these individual departments as part of the larger Natural Sciences Program. This will breed more collaboration between business and industry and all departments, as well as identify to our students the importance of interdisciplinary knowledge as it pertains to career paths and the current and potential workforce.

Goal 4: A Physically Transformed College

Transform the College's physical environment into a vibrant, and appealing place conducive to the engagement of students and community through campus renovations, additional facilities, and beautiful grounds.

C.ii. Expand hardscape and landscaping to the campus grounds, adding the infrastructure to water and maintain a more robust landscape, while understanding the limitations of our regional climate and the need to be resource conservation-minded. The Natural Sciences Program offers "in-house" expertise in this particular area; specifically when it comes to environmentally sensitive issues, land management, biological resources, mapping and wayfinding, and other natural resource services. The college can lean on this expertise to off-set some costs of outside consultants, and as a collaborative effort between our Physical Plant and Grounds Department and academics. Moreover, this also provides further high-impact experiences for our students as they can be part of "real-world" decisions and changes on their campus. The biology department is already involved in this strategy through their annual Bioblitz, and geosciences has been actively involved in helping set-up, manage and train personnel in the use of geospatial information which helps us make more informed decisions about the spatial relationships on our campus. This can be further enhanced by the proposed weather station to be installed on the roof of the new student services/university building, and the construction of an outdoor laboratory facility.

I.A.5. Broad summary of program work **ART**

The Laramie County Community College (LCCC) art program began in fall 1969. The original curriculum was designed by one instructor to accommodate transfer to regional four-year institutions and meet the requirements of the North Central Association of Colleges and Schools. In the beginning, most of the classes were in two-dimensional (2- D) art, serving approximately 100 students in six to eight different courses. The first classes were taught in Building A and the present Administration Building (then Building B).

In 1981, the art department moved into new quarters in the Fine Arts Building and the old quarters were renovated for other purposes and the kilns torn down. This made the art studios larger than in Building D. The jewelry and ceramics studios were (and continue to be) unsurpassed in the state of Wyoming. By 1988, the combined two-dimensional and three-dimensional art classes listed 30 sections each year.

In the early 1990's, there was a restructuring of contact hours within the art program. Prior to this time, all art classes followed the LCCC lecture class format. Classes were realigned to conform to a lab class format. This allowed art classes to match the standard accepted by other colleges and universities. Full transfer of credit was now available to LCCC students from most other institutions.

Today the LCCC art department has three full-time instructors and two adjunct instructors. The art department serves approximately 460 students per year in over 80 (LOOK THIS # UP) different courses. Each semester, the art department offers multiple sections of Beginning Drawing, Ceramics I/II/II, Metals I/II/III, and General Art: History. The art department also has a schedule of summer sections, as well as an online course in the form of General: Art History.

Recently, two new gas-fired kilns have been purchased to replace the old and inefficient kilns. This has allowed for added sections to be offered in ceramics and sculpture. A new printmaking equipment was added to the 2-D Design/Life-Drawing classroom which has also led to additional course offerings. There has been an expansion in class

sections of jewelry, painting and art history. The Esther and John Clay Summer Watercolor Workshop and the LCCC Summer Sculpture Workshop are well established programs outside the normal academic course offerings, bringing students and guest faculty from across the nation to LCCC. The art department is presently working with community members to establish program priorities and how they translate to facilities needs as part of a larger fine and performing arts building project. Articulation meetings with UW and Colorado institutions are also guiding these decisions.

I.A.5 Broad summary of program work **HISTORY**

Laramie County Community College's History Program dates back to the establishment of the college in 1969. The college employs two full-time historians to oversee the entire program. In 1969, LCCC offered six history courses; all transferred to the University of Wyoming and are still being offered in 2014. In the last twenty years the history offerings at LCCC have changed dramatically. Various specialized history courses have been added to the current history program. In an effort to provide courses of interest to our students and the residents of Laramie County, LCCC has sixteen history courses that are currently taught, five of which cross-list as Religious Studies courses.

Part of this substantial increase was due to student requests for an increase in the number of religion courses offered at LCCC. In the 1990s, we responded by adding the following classes: New Testament, History of Christianity, Holocaust, and The History of Islam. Additionally, students begin inquiring whether LCCC could possibly offer a degree in Religious Studies. In consultations with the Arts and Humanities department, the Social Sciences department developed a Religious Studies concentration associated with the History AA. Students now could major in history and take religion courses for their electives and fulfill the requirements for a history degree with a concentration in religion. These courses are cross-listed under religion and history. With the course map developed as part of the approved articulation with UW, students are able to complete an AA in History within 60 credit hours and successfully transfer.

The History faculty have also engaged in moving Topics courses that are commonly taught to fully articulated courses. Recently, American Revolution and Holocaust were both accepted at UW as articulated courses. The History and Philosophy of Islam was properly articulated and is now accepted as HIST/RELI 2320 History of Islam. With the conscientious alignment with the University of Wyoming, students can be assured that their coursework within the History program will be accepted for credit.

The History program is able to offer the variety and level of classes that it does due to the impactful contribution of a wonderful set of adjunct faculty. Adjuncts within the department currently teach History of Christianity, History of Islam, New Testament, History of the U.S. West, Topics: U.S. Civil War, and Mexican Civilization. Because of the depth of knowledge that adjuncts bring to the table, the History program can provide the community with insight into various historical topics.

The History faculty, both full-time and adjunct, have impacted both students and the community at large. Student transformations occur on a regular basis with classroom work and development over the course of the program. For example, a recent History student entered the History program after suffering from a workplace accident. This student had pursued a career as an auto mechanic, but due to an injury, was no longer able to engage in the work in a timely manner. Rather than accepting early retirement and disability, this student decided to pursue a degree in History with the goal of teaching at the secondary level. Initially, his skills were not up to par. He shared that when he originally went to college years before, he had gone on an athletic scholarship and had dropped out after not succeeding academically. However, with guidance over how to write papers effectively and mentoring regarding academic and career-based decisions, this student went on to graduate from LCCC and is scheduled to graduate from the University of Wyoming this upcoming year. An example of his student work is listed below to demonstrate the level of achievement he was able to attain at LCCC.

Along with having an impact on students' lives, the History faculty also makes a concerted effort to give back to the community. The History faculty regularly act as volunteer speakers for a variety of organizations, including Cowgirls of the West, Daughters of the American Revolution, the Wyoming State Museum, Leadership Wyoming, and more. History instructor Patty Kessler serves on the University of Wyoming Historic Preservation Board and is on the WYOHistory.org Board. Due to the actions of the History adjunct Mike Kassel, the History program established an internship with the Wyoming Governors' Mansion and the Frontier Days Old West Museum. These organizations have offered students a wonderful avenue to experience public history and give back to the community. In addition, History instructor Mary Ludwig has applied for and received grants to bring cultural programs onto campus. This allowed Carl Wilkins to speak on his experiences as a survivor of the Rwanda genocide, and another grant allowed for Created Equal programs to be sponsored on campus, including a speaking engagement by Freedom Rider George Blevins.

I.A.5 Broad summary of program work **NATURAL SCIENCES (BIOLOGY)**

The Natural Science Program was created in the fall of 2014 and implemented in fall 2015. Its creation was the culmination of a number of recent changes at LCCC. Due in part to: an institutional shift to eliminate General Studies Degrees; a requirements for programs to graduate a particular number of students each year; state mandates to reduce total credits required to graduate and state and LCCC requirements to develop articulations with other bachelors granting institutions, as well as a need for the flexibility to help students succeed in the diverse and sometimes not clearly outlined paths to continuing education and careers in the natural sciences. The now Natural Science Program faculty decided to examine the natural science curriculum and degrees. At the time (2013–2014 school year) we offered 5 natural science degrees: Biology (AS), Chemistry (AS), General Studies in Sciences / Health Sciences (AS), Prepharmacy (AS), and Wildlife Conservation and Management (AS). Each program with the exception of the General Studies in Sciences / Health Sciences (AS) consistently graduated few (0–4) majors per semester, while high numbers used the more flexible general studies degree. When we examined the curriculum for these majors we saw that most had very similar core requirements and could potentially be accommodated by a single major. However, the requirement for articulations coupled with the diversity of careers, degrees, pathways, and programs in the natural sciences - and the organizational structure of the institutions - meant we needed to create articulation agreements which were going to offer the flexibility to serve our students.

The solution came in creating a single major with more specific concentrations. This would provide pathways in which a core of courses early in the pathways would generally allow students to switch directions with little to no setbacks as they better refined their goals and interests. At the same time, the concentrations made it easier for potential articulation partners to see that their needs were going to be met and for the students to see that their particular degree was unique to their interest and clearly pointed them to articulating programs at other institutions. As such, the former Chemistry, Pre-Pharmacy and Wildlife and Conservation Management programs were deactivated and the former biology program was changed to the Natural Science (NS) program with multiple concentrations [Biology (AS), Chemistry (AA), Chemistry (AS), Human Biology (AS), Molecular Biology (AS), Physiology (AS), Wildlife Biology (AS), Zoology (AS) - with other potential concentrations and certificate options being discussed]. This new structure meets the diverse needs of our students, allows for better articulation with UW and other regional Bachelors granting institutions, and positions this program to be successful under the new assessment structure and requirements at LCCC and federal and state mandates for student success.

The Natural Science Program has developed 5 program 2+2 articulations with the University of Wyoming (UW) including: Department of Botany (College of Arts and Science) for our concentration in Biology (1), Department of Zoology and Physiology (College of Arts and Science) for our concentrations in Physiology (2), Wildlife Biology (3) and Zoology (4) and with the Division of Kinesiology and Health (College of Health Sciences) for our concentration in Human Biology (5). We have also forged a unique 1+3 articulation with Department of Geology (College of Arts and Science). We are currently in the process of developing articulations with the UW Department of Animal and Veterinary Sciences (College of

Agriculture and Natural Resources), Department of Molecular Biology (College of Agriculture and Natural Resources), Department of Chemistry (College of Arts and Science), Department of Geography (College of Arts and Science), and plan to explore articulations with various departments at other regional Bachelors granting institutions (e.g. Black Hills State University, Chadron State College, Colorado State University, University of Northern Colorado). These articulations may involve the creation of new concentrations to meet other needs.

The organizational structure going forward is built on the leadership of our Dean (Kathy Hathaway), Department Chair (Clint Reading) and the collaborative interactions of our strong faculty and staff. The Natural Science Program faculty and staff operate in a collaborative and collegial fashion to make decisions, overcome problems and complete tasks. The current Natural Science Program consists of 14 full time faculty (Dr. Michele Albert, Dr. Mohamed Chakhad, Dr. Burt Davis, Dr. Qing Du, Dr. Stephanie Fiedler, Trent Morrell, Clint Reading, Meredith Roehrs, Dr. Zachary Roehrs, Dr. Scott Smidt, Dr. Courtney Springer, Dr. Brian Uzpen, Dr. Ami Wangeline, Dr. Marie Yearling), 7 adjunct faculty and 1 support staff member (Caroline Ross).

Over the last 5 years (2011–2015) we have offered 619 sections (41 sections per semester) of various courses with a 5 year FTE of 3,806 (254 per semester) and a 5 year total enrollment of 11,256 students (750 students per semester) including NS program majors as well as many other programs (e.g. Agriculture, Computer Sciences, Health Sciences, etc.). Of these students we had a 97% course retention rate with a 66% success rate. While this number is not as high as we would like it to be the new Natural Science Program has targeted this as an area to focus our efforts over the upcoming years. It is also important to keep this number in context as this number is dominated by three entry level courses (Anatomy & Physiology I, General Biology and General Chemistry) often considered to be difficult courses at all institutions as many student's inaccurate expectations and are only beginning to develop the skills they will need to be successful in science. Furthermore, this success rate is on par with other community colleges (e.g. California Community College System 68%).

The degrees that have become the Natural Science Program graduate a total of 185 students in the last 5 years with a graduation rate of 6% (does not include graduates in General Studies in Sciences / Health Sciences), a figure we hope to improve in the next 5 years with the changes we have implemented. In the natural sciences, most careers will require further education beyond an associate's degree. Current data indicates that 49% of our students matriculate to the University of Wyoming and we know we also have a number of students matriculating to Colorado and other regional institutions as well as a number of other universities part of the Western Interstate Commission for Higher Education (WICHE). Finally, we have had a number of our graduates receive competitive scholarships, internships, and go on to graduate and professional programs in their fields. With the recent campus wide changes and NS program changes we hope this number will increase.

The community service and outreach of the Natural Science Program and it's faculty and staff is extensive and has included collaborations with: Albany and Laramie County School Districts, Audubon Society in Caper and Cheyenne, Cheyenne and Laramie County Cooperative GIS Program, Colorado State University, Junior Leadership Cheyenne, Laramie County Conservation District, National Geospatial Technology Center of Excellence, National Weather Service of Cheyenne, North American Network of Science Labs Online, Oklahoma State University, University of Nebraska, University of Northern Colorado, University of Wyoming, Western Interstate Commission for Higher Education, Wyoming Community Colleges, Wyoming INBRE Network, Wyoming State Future Farmers of America, and Wyoming State Science Fair to name a few. For details please see section "I.A.6 Significant program achievements over the review cycle" of this review.

Finally, it is important to note that as the Natural Science Program is new (implemented for <1 year) indicators of performance outlined above reflect our previous programs and that indicators of performance for this new program are

limited. However, as outlined in other sections of this review we have further plans to improve the Natural Science Programs performance relative to measured outcomes and have data for the previous 5 years on which to compare these changes in the future.

I.A.5 Broad summary of program work **NURSING**

--Overview of Nursing Program

LCCC offers an Associate of Applied Science Degree in Nursing (ADN) with a Practical Nursing (PN) spin-off option. The program is available on the main campus in Cheyenne. The nursing program provides a much needed service to the local and surrounding communities by providing qualified nurses. It also provides a pathway for educational opportunities and career mobility in nursing.

The program is four semesters in length with four prerequisites. However, with the increased numbers of applicants and competition to attain a slot, most students are entering the program with most, if not all, of the general education courses already completed. As such, the ADN program consists of 72 credits, 42 of which are nursing.

Students are eligible to become Certified Nursing Assistants (CNA) by deeming status, from the Wyoming State Board of Nursing (WSBN) upon successful completion of the first semester. There is an application process in place with the WSBN for students that are interested in this option.

After successful completion of the first year a Practical Nursing (PN) spin-off option is available. They are then prepared to take the NCLEX-PN licensure exam and practice as LPNs. The majority of the students take this course and many work as LPNs while completing the second year. Although the regional hospitals no longer utilize LPNs for acute care, Cheyenne and the surrounding region still have several long term care facilities, home health agencies and assisted living facilities that utilize them.

An advanced placement option is also available to LPNs who choose to return to school and complete their ADN. There are 5 dedicated slots available in the 3rd semester and students are accepted based on the admission criteria and completion of the Advanced Placement Application and satisfactory achievement on the LPN Step Placement Exam. This has met community needs.

In addition, there are articulation agreements in place with several universities for students to continue on to the baccalaureate level should they so desire. For a complete list of articulation agreements please visit the website at http://lccc.wy.edu/about. Students may also choose to transfer to another college or university, which is another option, even if an articulation agreement does not exist. LCCC and UW work closely together to make completion of a baccalaureate (BSN) degree an attainable goal for any interested student. UW provides a nursing professor to the LCCC campus once a month for individual student advising for the ADN-BSN option.

Nursing directors from around the state along with the dean of nursing from UW and other key stakeholders are pursuing a statewide nursing curriculum, Revolutionizing Nursing Education in Wyoming (ReNEW) to make educational pathways smoother with fewer roadblocks for students interested in continuing their education. The goal is to ease educational pathways and to ultimately increase the numbers and educational levels of nurses around the state. This curriculum will begin fall 2016.

--History of the Nursing Education Unit

In 1971, LCCC offered practical nursing for the first time and graduated its first class in 1972. In response to community need, the Associate of Applied Science Degree in Nursing (ADN) started in 1977. In 1985, LCCC combined the two programs into an ADN program with a Practical Nurse Spin-Off. This enabled the college to meet the community needs for both LPNs and RNs and offered students career options.

LCCC continues to offer several rungs in the career ladder for nurses as noted previously. The flexibility of LCCC's nursing program continues to benefit both the students and the community.

--Projected Viability

The data for this section are provided by the Wyoming Department of Workforce Services Fall 2011 report: Health Care Workforce Needs in Wyoming: Advancing the Study. This report notes that "in many cases, Wyoming colleges are not producing enough completers to fill the number of average annual opening" (p. 33). It goes on to state, "Some occupations with a substantial number of shortages included registered nurses ……and licensed practical and licensed vocational nurses". The projected shortage is approximately 6,700 positions, between 2010-2020, or annual openings for the state of 670 RNs with an additional 110 annual openings for LPNs. The Wyoming graduates for 2009 included 444 RNs and 87 LPNs, thereby, leaving a deficit of 222 and 23 nurses, respectively.

The numbers may actually be worse than reported as these "shortages do not take into account the number of college completers who left Wyoming to work in another state" (p. 33). With 25% of LCCC's nursing students being Colorado residents, shortages could be significantly different.

Per the American Nurses Association, 2014, the projected employment growth for nurses over the next decade is 20.1p percent with 3.1 million nurses already in the workforce.

Currently the LCCC nursing program is receiving a significant number of applications each semester and is having no difficulty filling the 40 positions. The program capacity is 170 student with a current enrollment of 163. There are eleven full-time faculty and an additional 10-12 adjunct faculty to meet the program demands. In addition there is a full time director and administrative assistant.
The program director reports to the Health Science and Wellness dean who directly reports to the Vice President of Academic Affairs.

--B. Community Impact

The program determines the needs of the stakeholder groups by actively seeking their input. Communities of interest have input into the program in a variety of ways. The director meets with a representative from the largest clinical provider monthly to ensure quality clinical experiences and to address needs of the community. Nursing students provide input in monthly faculty meetings and through student evaluations of both the classroom and clinical experiences. Graduates of the program and employers of those graduates have input into the program through surveys six months after graduation. The program also has a well-developed advisory board which meets with nursing faculty biannually.

Partnerships exist that promote excellence in nursing education, enhance the progression, and benefit the community. Some of those partnerships are:

•Nursing Program Advisory Board
•Numerous Clinical sites—the large ones have a representative on the advisory board
•Nurse Educators of Wyoming (NEW) is made up of the state's seven nursing program directors and the dean of nursing from the University of Wyoming. They meet multiple times throughout the year to work on educational issues.
•Revolutionizing Nursing Education in Wyoming (ReNEW). An active group which is creating a shared, competency-based statewide curriculum where students can earn an associate degree or continue seamlessly to the BSN degree (or higher) starting at any of the community colleges or UW. The courses/clinical experiences needed to complete the BSN through the University will be available through distance delivery.
•Wyoming Center for Nursing and Healthcare Partnerships (WCNHCP)
•Cheyenne Regional Medical Center (CRMC) New Graduate Residency Program Advisory Board

Other ways the program has received input to promote nursing education excellence include: Participation in Consultative Feedback Process, Committee Work, Advisory Board meetings, meetings with individual facilities and staff, faculty meetings, surveys, student input, Wyoming State Board of Nursing Meetings and consultations, Wyoming Center for Nursing and Healthcare Partnerships advisory board meetings, meetings with RENEW, LCCC board of trustees, Nurse Educators of Wyoming, Wyoming Nurses Association, Conferences, and HSW School Meetings.

-- C. Outcomes

Some strong indicators of exemplary performance are NCLEX-PN and NCLEX-RN pass rates above the national average for the last three years along with a 100% employment rate. For three years of data, please see Standard 6 in the uploaded Systematic Plan of Evaluation.

I.A.6 Significant program achievements over the review cycle **DIAGNOSTIC SONOGRAPHY**

The DMS Program uses the various assessment tools to ensure the effectiveness of the DMS program. These are done on a weekly basis to adjust courses to student needs, as well as on a course level to ensure our graduates can meet national standards. Survey results are used to make changes to the curriculum to ensure our program mirrors national and employment standards. We are happy to report that our assessments have continually come back as excellent and therefore only minor adjustments have been needed to me made to the program curriculum.

Below is a chart of assessment result for the DMS Program.

Program Measure	Annual Results	Composite 3-Year Average
Abdomen – ARDMS National Exam Pass Rate	2012: 100% 2013: 100% 2014: 100%	100%
OB/GYN – ARDMS National Exam Pass Rate	2012: 100% 2013: 100% 2014: 100%	100%
Ultrasound Physics – ARDMS National Exam Pass rate	2012: 100% 2013: 100% 2014: 100%	100%
Employment Rates (Full-time within 6 months post-graduation)	2012: 100% 2013: 100% 2014: 100%	100%

I.A.6 Significant program achievements over the review cycle HISTORY

The History program has had several achievements since the last program review in 2008. The History program achieved its all-time high in graduates in the spring of 2014 by graduating eight students. LCCC also hired another full-time historian for the ACC campus; this move has allowed for greater collaboration and academic success on both campuses. The History department received a National Endowment of the Humanities grant to present the series Created Equal for the Cheyenne community. This entailed a five-part program that brought as many as 87 people at one time to the campus to see the presentation of Freedom Rider George Blevins. The History department has also sponsored and supported other speaking engagements, including the photographer of the Afghan Women's Project Peggy Kesley who came in conjunction with humanitarian Greg Mortenson, Heart Mountain survivor Sam Mihara, Rwanda genocide witness Carl Wilkins, Holocaust survivor Estelle Nadel, activist and writer Winona LaDuke, and the African Maafa program which included a variety of speakers and cultural presentations. This community engagement is on track to continue, with visits by Vietnam veteran and veterans' advocate Frederick Downs scheduled to speak in spring 2015 along with another presentation by Sam Mihara. The History faculty at ACC has also co-sponsored presentations over the anniversary of the Berlin Wall, traveling exhibit The Literature of Prescription, and photographer Sarah Wiles' photo-documentary study over the Northern Arapaho. In addition, internships have been established with the Wyoming Governors' Mansion and Frontier Days Old West Museum.

I.A.6 Significant program achievements over the review cycle NATURAL SCIENCES

NS Program Achievements:

- Developed new structure for program, changing the former Biology program to Natural Science (NS) program with multiple concentrations [Biology (AS), Chemistry (AA), Chemistry (AS), Human Biology (AS), Molecular Biology (AS), Physiology (AS), Wildlife Biology (AS), Zoology (AS)]. This news structure meets the diverse needs of our students, allows for better articulation with UW and other regional Bachelors granting institutions, and positions this program to be successful under the new assessment structure at LCCC and federal and state mandates for student success. The former Chemistry, Pre-Pharmacy and Wildlife and Conservation Management programs were deactivated.
- We have developed 5 NS program 2+2 articulations with the University of Wyoming (UW) including with the: Department of Botany (College of Arts and Science) for our concentration in Biology (1), Department of Zoology and Physiology (College of Arts and Science) for our concentrations in Physiology (2), Wildlife Biology (3) and Zoology (4) and with the Division of Kinesiology and Health (College of Health Sciences) for our concentration in Human Biology (5). We are in the process of developing articulations with the UW Department of Animal and Veterinary Sciences (College of Agriculture and Natural Resources), Department of Molecular Biology (College of Agriculture and Natural Resources), Department of Chemistry (College of Arts and Science), Department of Geography (College of Arts and Science), and plan to explore articulations with various departments at other regional Bachelors granting institutions (e.g. Black Hills State University, Chadron State College, Colorado State University, University of Northern Colorado).
- New Courses Developed (5+ new course):
    - Life in the Universe (ASTR 1490) 3 credits – Brian Uzpen
    - Scientific Research I & II (BIOL 1390 & BIOL 2390) 4 credits – Ami Wangeline & Zachary Roehrs
    - Cooperative Work Experience (CHEM 1480) 1 credit – Qing Du
    - Introduction to Geospatial Technology (GEOG 1220) 3 credit – Trent Morrell
    - Fundamentals of the Physical Universe (PHYS 1090) 4 credits – Brian Uzpen
    - Advanced Concepts in Physiology (ZOO ?) – Michele Albert working on this (MCOR, etc.) to be offered in Fall 2016.
    - Have developed a Natural Science flavored COLS 1000 to not only meet the COLS 1000 course competencies but do so in ways that may help students be better prepared and successful in science courses and programs. Currently we are waiting for LCCC to decide how discipline based COLS will be implemented.

Specific NS Program Student Achievements:

- Over the last 5 years the NS program has taught 619 course sections (41 per semester) with a total FTE of 3,806 (254 FTE per semester) serving 11,256 students (750 per semester) including NS program majors as well as many other programs (e.g. Agriculture, Computer Sciences, Health Sciences, etc.). Of these students we had a 97% course retention rate with a 66% success rate. While this number is not as high as we would like it to be the NP program has targeted this as an area to focus our efforts over the upcoming years. It is also important to keep this number in context as this number is dominated by three entry level courses (Anatomy & Physiology I, General Biology and General Chemistry) often considered to be difficult courses at all institutions. Furthermore, this success rate is on par with other community colleges (e.g. California Community College System 68%).
- In the natural sciences most careers will require further education beyond an associate's degree. Current data indicates that 49% of our students matriculate to the University of Wyoming and we know we also have a number of students matriculating to Colorado and other regional institutions as well as a number of other universities part of the Western Interstate Commission for Higher Education (WICHE). With the recent campus wide changes and NS program changes we hope this number will increase.
- Since the 2010–2011 academic year NS related programs have awarded a total of 185 degrees to students

NS Program Outreach Achievements:

- Faculty within the NS program have participated in annual articulation meetings with Laramie County School District #1, Wyoming Community Colleges, and the University of Wyoming in the areas of Anatomy and Physiology, Biology, Chemistry, Ecology, Geography, Geology, Kinesiology, Microbiology, Molecular Biology, Physics, Wildlife and Zoology.
- LCCC GIS Day – Since November 2006 faculty (Trent Morrell) and Cheyenne and Laramie County Cooperative GIS Program have organized the annual LCCC GIS Day – a program to create awareness of the power of the Geographic Information System and other geospatial technology.
- LCCC Bioblitz – Since Spring 2012 faculty (Clint Reading, Meredith Roehrs, Zachary Roehrs, Ami Wangeline) have organized the annual LCCC Bioblitz – a 24 hour inventory of biodiversity on the LCCC campus. To date we have had a total of 116 participants and have recorded 102 species on campus. For more information see reports.

    - Spring 2012 – 11 participants: 3 faculty, 8 LCCC students; identified 26 species.
    - Fall 2013 – 32 participants: 3 faculty, 29 LCCC students; identified 56 species.
    - Fall 2014 – 41 participants: 4 faculty, 25 LCCC students, 2 UW students, 1 faculty and 7 students from Cheyenne South High School, 2 children of participants; identified 88 species.
    - Fall 2015 – 32 participants: 5 faculty, 19 LCCC students, 3 UW students, 5 children of participants; identified 90 species.

- STEM Camp for Girls 2012 – Led breakout Sessions:
    - Science is Everywhere! Ami Wangeline
    - Beyond Dr. Doolittle. Michele Albert and Meredith Roehrs
    - Chemistry is Fun! Qing Du

Honors and Awards (8 honors and awards to 4 NS faculty):

- Faculty of the Year Award, Wyoming Association of Community College Trustees (Nominee): Ami Wangeline 2013.
- Friend of Sage Trio, Laramie County Community College: Zachary Roehrs 2014.
- Golden Apple Grant Award, Laramie County Community College Foundation: Ami Wangeline 2012
- Honorary FFA Degree, Wyoming State FFA Association: Trent Morrell 2013.

- Partner in Conservation Award, Laramie County Conservation District: Zachary Roehrs 2015.
- Teaching Excellence Faculty Achievement Award, Laramie County Community College: Michele Albert 2014; Trent Morrell 2014; Clint Reading 2013; Ami Wangeline 2011

Grants Awarded

(7 NS faculty brought in $559,435.00 in extramural funds providing curriculum design, equipment, supplies, opportunities and support directly for 91 LCCC students as well as an incalculable number of other students who indirectly benefited):

- He, G, Albert, M. 2015. CARD9 signaling and childhood obesity-associated cardiac dysfunction. INBRE Developmental Research Project Program. Extramural funds: $2,500, Students involved: 2 LCCC, 2 University of Wyoming – Laramie.
- Lanier, HC, Seville, RS, Roehrs, ZP, Roehrs, MA. 2015. Long-term community responses to the 1988 Huckleberry Mountain Fire. University of Wyoming-National Park Service Research Station, Proposal to Conduct Research. Extramural funds: $5,000.00, Students involved: 5 LCCC, 5 University of Wyoming, K-12 teachers: 3 Natrona County.
- Roehrs, ZP, Roehrs, MA. 2015. Baseline small mammal survey of Cheyenne Business Park Natural Area. Laramie County Conservation District. Extramural funds: $1,895.00, Students involved: 5 LCCC, 2 University of Wyoming – Laramie, 2 pre-college and 1 other LCCC employee.
- Wangeline, AL, Roehrs, ZP. 2015–2019. Undergraduate pipeline in science through research experience in ecology, molecular biology and genetics of selenophilc filamentous fungi. Wyoming INBRE 3, Community College Partner. Extramural funds: $200,000, Students involved: 3 LCCC to date.
- Lanier, HC, Seville, RS, Roehrs, ZP, Roehrs, MA. 2014. Long-term community responses to the 1988 Huckleberry Mountain Fire. University of Wyoming-National Park Service Research Station, Proposal to Conduct Research. $2,500.00, Students involved: 4 LCCC, 6 University of Wyoming.
- Wangeline, AL. 2014. Undergraduate pipeline in science through research experience in ecology, molecular biology and genetics of selenophilc filamentous fungi. Wyoming INBRE Bridge Funding, Community College Partner. Extramural funds: $40,000, Students involved: 15 LCCC.
- Du, Q. 2013. Developing and presenting chemistry-related hands-on science projects suitable to elementary school students. Golden Apple Grant, LCCC Foundation. Extramural funds: $1000.00, Students involved: 2 LCCC, K–6th grades from various elementary schools in Cheyenne, Burns, and Wellington, WY.

·Publications (4 NS faculty have produced 7 professional publications; * asterisk indicated undergraduate):

- Lanier HC, Kulikowski AJ*, Roehrs ZP, Roehrs MA, Seville RS. 2015. Successional responses of small mammals and invertebrates 26 years after the 1988 Huckleberry Mountain fire. University of Wyoming / National Park Service Research Center, Annual Report 37.
- Kempf BJ, Kelly MM, Springer CL, Peersen OB, Barton DJ. 2013. Structural features of a picornavirus polymerase involved in the polyadenylation of viral RNA. Journal of Virology 87:5629–5644.
- Lindblom SD, Valdez-Barillas JR, Fakra SC, Marcus MA, Wangeline AL, Pilon-Smits EAH. 2013. Influence of microbial associations on selenium localization and speciation in roots of Astragalus and Stanleya hyperaccumulators. Experimental and Environmental Botany 88:33–42.
- Springer CL, Huntoon HP, Peersen OB. 2013. Polyprotein context regulates the activity of poliovirus 2CATPase bound to bilayer nanodiscs. Journal of Virology 87:5994–6004.
- Valdez-Barillas JR, Quinn CF, Freeman JL, Lindblom SD, Fakra SC, Marcus MA, Gilligan TM, Alford ER, Wangeline AL, and Pilon-Smits EAH. 2012. Selenium distribution and speciation in the hyperaccumulator Astragalus bisulcatus and associated ecological partners. Plant Physiology 159:1834–1844.

- Wangeline AL, Valdez JR, Lindblom SD, Bowling KL*, Reeves FB, Pilon-Smits EAH. 2011. Characterization of rhizosphere fungi from selenium hyperaccumulator and nonhyperaccumulator plants along the eastern Rocky Mountain Front Range. American Journal of Botany 98:1139–1147.
- Quinn CF, Wyant K, Wangeline AL, Shulman J, Galeas ML, Valdez JR, Paschke MW, Pilon-Smits EAH. 2011. Selenium hyperaccumulation increases leaf decomposition rate in a seleniferous habitat. Plant and Soil 341:51–61.

I.A.7 Developing value in programming **HISTORY**

The History Program is perpetually reviewing and revising its program to enhance its value to students in the adoption of enhanced learning experiences through the integration of on-line resources, innovative approaches to content delivery, in the hiring of full-time faculty, the training and oversight of adjunct faculty, and through the development of interdisciplinary approaches to program development. The Program currently offers two to three on-line courses during each academic term (including the summer) in US History to 1865 and US History from 1865. These courses have been developed by Instructor Ludwig. There currently are two on-line instructors, one of which is Instructor Ludwig. A third instructor will be trained and available to teach a section of the US to 1865 course in the summer of 2015. The Program will continue to work on the expansion of on-line offerings and in the training of on-line faculty. Currently, the History Program's new full-time hire will begin this training in the spring of 2015 and begin teaching an on-line section of US to 1865 in the summer of 2015.

The addition of another full-time faculty member enhances our ability to work collaboratively to research, develop, and implement innovative ways in which to deliver content. For example, Instructor Kessler has been integrating the concept of flipped-classes into her curricula for the past year. In this process students prepare for in-class interpretive activities related to materials and assignments completed outside of class time. This provides an opportunity for students to interact in classroom/group activities that serve to reinforce concepts reviewed in assignments conducted outside of the classroom and gives the instructor an opportunity to facilitate students learning process in a more concrete manner than that with a preponderance in the delivery of information as opposed to that material's internalization. This was most effective in providing opportunities for students' to analyze and synthesize data collected from primary sources such as immigration statistics to the British Colonies in the 17th and early 18th centuries and a study of economic production in the northern and southern colonies to identify the factors that would have contributed to the growth of the institution of slavery during this same time period. In this exercise, students would have been asked to read and review statistical data available in an on-line resource and have brought their interpretation of this data to class where they would collaborate in a group project to interpret and analyze their findings. This approach to teaching and learning provides an interactive, proactive environment in which students are intimately engaged with the factors that defined social, political, and economic policy through the early history of the United States.

Both full-time faculty members on the Cheyenne and Laramie campuses are intimately involved with the hiring and training of history adjunct faculty. Instructor Ludwig provides at least two opportunities a semester for adjunct and full-time faculty to meet concerning policies and procedures, the delivery of content, and for sharing concerns, teaching strategies, and success stories. Changes in policies and procedures and syllabi revisions are shared with all adjunct faculty.

All history faculty incorporate lessons that support writing, reading, note-taking, and study skills into their curriculum throughout the semester. These assignments and activities are designed to demonstrate students' mastery of these skills in the delivery and interpretation of content learned throughout the term.

I.A.7 Developing value in programming **NATURAL SCIENCES**

The Natural Sciences Program is a new program and replaced all previous natural science related programs (e.g. Biology, Chemistry, General Studies in Science / Health Science, Wildlife Conservation and Management). The goal of this new program is to provide one program that provides a similar foundation for all natural science students, allows students to learn more about themselves, their interests, and career goals, then provides the flexibility for them to begin down a pathway of greater specialization (concentration) that finally allows for better articulation with a great diversity of bachelor programs at other institutions. This holistic approach to providing an A.S. in Natural Sciences will equip these students graduating with this degree to be well prepared for a variety of sciences pathways into their baccalaureate and higher educational pursuits.

Program feature changes applied over the last five years include:

1) Single program with multiple concentrations.
2) Reduction in the number of credits needed to earn associates degree.
3) A similar first year course progression for many concentrations allowing for students to change concentrations within 1st year of the major without many or any additional classes.
4) Numerous 2 + 2 articulations with the University of Wyoming (and more coming).
5) Program and course assessments to help improve our service to our students.

I.A.7 Developing value in programming **NURSING**

A summary of how the program has intentionally enhanced the value to students include the following:

•Curriculum is faculty driven, reviewed and developed and student outcomes are clearly defined
•Curriculum is designed around best practices, and includes safety, evidenced based practice, culture/diversity, regional needs, and national standards
•Students participate in clinical in a variety of settings for a broad clinical experience
•The program is innovative and technology is utilized throughout the curriculum
•This section fits in with LCCC's Strategic Goal #1B: "Implement research-based, high-impact practices for early and ongoing student engagement in the educational process". The variety of learning activities, resources and evaluation methods demonstrate nursing's dedication to student success.
•Work continues statewide on ReNEW with a projected launch date of August 2016. This work started in spring 2010 and is now coming to fruition.
•ReNEW (Revolutionizing Nursing Education in Wyoming) curriculum finalized in spring and now individual colleges are developing the courses for their campuses. Many work days throughout spring at LCCC to work on new curriculum. Eleven FT/PT LCCC nursing faculty attended the Nurse Educator summit in May 2015. Two faculty on ReNEW curriculum & evaluation committee (formerly just curriculum) which met several times throughout the year. VPSS co-chair of student services committee which has worked out many of the logistical elements so students will not experience barriers as they continue on for BSN. Expected launch of new statewide curriculum fall 2016.

I.B. Program Data Presentation: Program Review KPIs **BUSINESS & FINANCE/ACCOUNTING**

Participation – The Business and Finance scored a 5 while Accounting only scored a 4. Enrollment and FTE are strong in all of our transfer degrees. However this data shows all coursework based on course prefixes, including courses that are taught solely for our non-transfer programs. Our non-transfer programs have low enrollment. Therefore Accounting includes three courses that are not in our transfer program.

Success – Both transfer programs received a 3 in this category. While our number of degrees awarded and matriculation indicators are strong, our course success rates and graduation rates are pulling the scores down. The department has started mapping our courses in an attempt to improve our course success rates. The online offerings are really pulling down the success rates as well. We started to redesign our online courses, making them easier to navigate and more focused on student engagement.

Our graduation rates are low based on our department philosophy. In the past we had enough coursework articulated that a student could stay at the college and get several extra courses completed towards their Baccalaureate degree. In fact they could transfer to the University of Wyoming with only 36 credits to complete. Most students would wait to apply for graduation at the end, so they could continue receiving financial aid. As a department we would encourage this. However the KPI indicators are calculated as success only if the student completes in 3 years. We are changing our approach, and encouraging students to follow our articulation agreement and graduate after two years without additional coursework.

Learning Environment – The Business and Finance scored a 4 while Accounting scored a 3. The first indicator is Percent of sections taught by full-time faculty. Accounting had a three year indicator of 3, however 2014-15 was only 1. This was because we lost our full-time accounting faculty at both the Cheyenne and Albany County Campuses. We were unable to fill those positions, so we had to utilize adjunct faculty for those courses.

Efficiency – The Business and Finance scored a 3 while Accounting scored a 2. The first two indicators are average credits and average time to completion. Prior to redesign, our programs required 72 credits to complete. That along with faculty encouraging students to take more has caused our students to stay at LCCC longer. However we have redesigned the programs to be only 64 credits and are strategically offering them so students can complete in two years.

The third indicator is section fill rate. The Accounting is low as a result of the indicators including all accounting courses, regardless of which degree they were being offered for.

The fourth indicator is core expenditures per FTE. Until we as a college truly do cost centered budgeting we as a department would challenge the true accuracy of these results. However the Accounting was high due to the fact that we lost our full time faculty member and we had to utilize the use of adjuncts. Also we are including low enrolled courses that are not part of the transfer program in this data.

II.A.1 Process to Design the Curriculum **PARALEGAL**

The paralegal program maintains currency in curriculum based on the requirements of ABA approval. ABA approval helps to structure the program curriculum.

The paralegal program curriculum development is impacted and reviewed by the Paralegal Advisory Committee.

All paralegal students are required to complete 5 required Paralegal core courses and 5 Paralegal core elective courses.

Students take required courses in the ideal sequence as follows: introduction to paralegal studies and legal research and writing I, simultaneously in their first semester, then take legal research and writing II and evidence and investigation in the second semester. These courses build more developed writing skills and expectations that will be required in the civil procedure and litigation course. Some examples of the more developed writing skills include proper legal citation, proper document mechanics, and the ability to review and recognize errors in grammar, citation and specific sections of proper legal documents. Within each semester students have the opportunity to take courses in various legal topics. Every class in the

program offers practical written applied assignments designed to prepare students for the paralegal career. The Paralegal program's sequencing of classes directly supports the program's competencies:

Program-Level Learning Competencies

--Student will demonstrate their capacity/ability to effectively draft a variety of legal documents.
--Students will demonstrate their capacity/ability to effectively conduct legal research and apply legal research to legal writing.
--Students will be prepared to be an effective Paralegal by demonstrating and utilizing research, document drafting and organizational skills required of the career.
--Students will demonstrate their ability to effectively interview clients and witnesses.
--Students will demonstrate an understanding of the evolving paralegal field and career opportunities within the Paralegal field.
--The student will demonstrate an understanding of the ethical rules governing the practice of law.

The Paralegal program director attends national Paralegal educator conferences for professional development and works with adjunct instructors and the Paralegal advisory board to implement new strategies in the paralegal program.

PROGRAM SEQUENCING

1ST SEM./TERM	COURSE NUMBER	COURSE TITLE	CREDITS
GenEd: CS	COLS 1000	Introduction to College Success: First Year Seminar	3
GenEd: CW	ENGL 1010	English I: Composition	3
Program Rqmts	LEGL 1500	Introduction to Paralegal Studies	3
Program Rqmts	LEGL 1710	Legal Research and Writing I	3
GenEd: QR	MATH 1010	Problem Solving	3
		SUBTOTAL CREDITS	**15**
2ND SEM./TERM	**COURSE NUMBER**	**COURSE TITLE**	**CREDITS**
GenEd: CV	CO/M 1010 or CO/M 1015	Public Speaking or Foundations of Communication	3
Program Rqmts	LEGL 1720	Legal Research and Writing II	3
Program Rqmts	LEGL 2550	Evidence and Investigation	3
Program Rqmts		Program Elective from various disciplines	3
		SUBTOTAL CREDITS	**12**
OPTIONAL SUMMER TERM			
PROGRAM RQMTS	**LEGL 1800 OR LEGL 2830**	**LAW OFFICE MANAGEMENT OR COMPUTER APPLICATIONS IN THE LAW**	**3**
PROGRAM RQMTS		Program Elective from various disciplines	**3**
		SUBTOTAL CREDITS	**6**
3RD SEM./TERM	**COURSE NUMBER**	**COURSE TITLE**	**CREDITS**
GenEd: WS	POLS 1000 or HIST 1211 or HIST 1221 or HIST 1251	American and Wyoming Government or History to 1865 or History from 1865 or Wyoming History	3
Program Rqmts	LEGL 2500	Civil Procedure and Litigation	3
Program Rqmts	LEGL	Legal Elective	3
Program Rqmts		Program Elective from various disciplines	3
Program Rqmts		Program Elective from various disciplines	3
		SUBTOTAL CREDITS	**15**

4TH SEM./TERM	COURSE NUMBER	COURSE TITLE		CREDITS
Program Rqmts	Legl Elective which may be BADM 2010	Business Law I	or Legal Program elective	3
Program Rqmts	LEGL	Legal Elective		3
Program Rqmts	LEGL	Legal Elective		3
LAB		Choose course from General Education Lab Science approved course list		4
Program Rqmts		Program Elective from various disciplines		3
			SUBTOTAL CREDITS	**16**
			TOTAL CREDITS	**64**

Refer to MCOR's listed in the Curriculum Management process section.

Please refer to the Paralegal program curriculum map attached below.

Curriculum Mapping	**I= introduces R= reinforced E= emphasize M= mastery**														
Program Competencies	Intro to Paralegal Studies	Legal Research and Writing I	Legal Research and Writing II	Evidence and Investigation	Civil Procedure and Litigation	Law Office Management	Probate Practices and Procedures	Torts	Family Law	Real Estate and Property Law	Criminal Law and Procedure	Constitutional Law	Administrative Law	Computer Applications in the Law	Paralegal Internship
The student will demonstrate their capacity/ability to effectively draft a variety of legal documents.	I	I R E	I R E	R E M	R E M	R	R E	R E	R E	R E	R E	R E	R E	R E	R E M
The student will demonstrate their capacity/ability to effectively conduct legal research and apply legal research to legal writing.		I E	I R E	R M	R M	R	R E	R E	R E	R E	R E	R E	R E	R E	R E M
The student will be prepared to be an effective Paralegal by demonstrating and utilizing research, document drafting and organizational skills required of the career.	I	I E	I R E	R E M	R E M	R	R E	R E	R E	R E	R E	R E	R E	R E	R E M
The student will demonstrate their ability to effectively interview clients and witnesses.	I			R E M			R	R	R				R E		R E M

II.A.1 Process to Design the Curriculum **DIAGNOSTIC SONOGRAPHY**

The curriculum for the program is composed of two integrated educational components: didactic and clinical, allowing a variety of learning activities to be used by the program. To support student learning, program faculty in didactic courses employ several different learning activities. New material is typically introduced using textbook assignments and a traditional lecture format utilizing PowerPoint presentations. Once students have required the basic foundation knowledge they need, students apply their knowledge in active learning activities which include:

Laboratory activities Case Studies
Practical Examinations Simulated Patient Exams
Extensive DMS Lab Practice Time Small Group Projects
Writing Assignments – Journal Article Review Problem Based Learning Activities

To further reinforce learning, students are assigned to a clinical education center during their second year, allowing them to perform sonographic procedures on actual patients under one-on-one instructional supervision. The didactic and clinical coursework within the curriculum are directly correlated to each other and arranged in a sequential manner, thus allowing students to reinforce and build on past learning experiences and allowing students the opportunity to immediately apply their classroom knowledge in a real-life situation.

The required competencies of the program are arranged in a logical sequence, moving from simple to more complex procedures as the student advances in his/her education. Students are given the entire semester to complete all of the objectives, allowing them time to complete the procedures which they have just learned during the semester.

Summer

Course Name	Instructor	Instructor Credentials	Credit Hours
DMS Beginning Clinical Experience	Sheridan Hanson	RDMS (ABD, OB/GYN)	6
Intro to Diagnostic Medical Sonography	Adrienne Wade	RDMS (ABD, OB/GYN), RVT	3
Cross-Sectional Anatomy	Sheridan Hanson	RDMS (ABD, OB/GYN)	3

Fall

Course Name	Instructor	Instructor Credentials	Credit Hours
Sonography Clinical Experience I	Sheridan Hanson	RDMS (OB/GYN, ABDOMEN)	11
Registry Review I	Sheridan Hanson	RDMS (ABD, OB/GYN)	1

Ultrasound Physics I	Sheridan Hanson	RDMS (OB/GYN, ABD)	2
OB/GYN Sonography I	Adrienne Wade	RDMS (ABD, OB/GYN), RVT	3
Abdominal Sonography I	Sheridan Hanson	RDMS (ABD,OB/GYN)	3

Spring

Course Name	Instructor	Instructor Credentials	Credits Hours
Sonography Clinical Experience II	Sheridan Hanson	RDMS (OB/GYN, ABDOMEN)	13 credits
Registry Review II	Adrienne Wade	RDMS (ABD, OB/GYN), RVT	1 credit
OB/GYN Sonography II	Adrienne Wade	RDMS (ABD, OB/GYN), RVT	3
Abdominal Sonography II	Sheridan Hanson	RDMS (ABD, OB/GYN)	3
Ultrasound Physics II	Sheridan Hanson	RDMS (ABD, OB/GYN)	2
Intro to Vascular Sonography	Adrienne Wade	RDMS (ABD, OB/GYN), RVT	3

Ensuring Comparable Course Content in all Sections

The DMS program only offers one section of each course taught using an approved course syllabus, because of this there have been no problems between sections.

However, because the program utilizes 19 different clinical sites with one or more clinical supervisors employed by that site assigned to instruct and evaluate students, the program does work to ensure that instruction remains as consistent as possible at each clinical site a student may be assigned to. The program uses the following mechanisms to ensure as much consistency as possible between clinical supervisors:

1. All clinical supervisors are provided with a position description outlining their duties and are given a faculty handbook.
2. Both the Program Director and the Clinical Coordinator visit each clinical education center approximately twice a semester while students are completing their clinical education hours. This allows program faculty to directly observe students applying their knowledge and skills in a workplace setting, provides direct one-on-one communication with the Clinical Supervisors throughout the semester, and allows any clinical deficiencies to be identified at various points throughout the semester, rather than at the end of the evaluation period, when it may be too late to correct them

II.A.1.a Responding to student and stakeholder needs DIAGNOSTIC SONOGRAPHY

The program regularly solicits input from a variety of its stakeholders, including students, graduates, employers, radiologists, and others. The methods that the program uses are described below:

Students:
Each class elects one student representatives who serves for the duration of the program. The student representatives are responsible for bringing concerns of individual students and/or his/ her class to the attention of program faculty. Each representative also attends Program Advisory Committee meetings to provide a student voice and perspective for program governance and policy issues.

Students are also occasionally directly asked by the program director and/or clinical coordinator for their opinions regarding program policies and/or implementation issues during regularly scheduled classes .

Graduates:
The program utilizes a graduate survey which is administered after 6 months of graduation. This information is used and reported in the JRC-DMS Annual report. Additional the graduate surveys are used to address deficiencies in the program or to enhance smaller items in the program administration. These surveys were vital in the initial development of the program and help adjust the curriculum to ensure student success. The program has had a 100% response rate to these surveys for the past three years.

Employers:
Employer satisfaction is also monitored on an annual basis. Surveys are sent each November for that year's set of graduates. The program is fortunate to have a very high response rate with which to evaluate its graduates. The program uses this data from employers to adjust the curriculum to better align our program goals with the expectation of employers.

Advisory Committee Members:
In addition to completing surveys, representative sonography employers are members of the DMS Program's Advisory Committee. Its membership is composed of the Program Director, the Clinical Coordinator, the Dean of the Health Sciences and Wellness Division, a radiologist (medical director) sonographers from the community, program graduates, and two student representatives. This group meets once each spring semester and fall semester. The Advisory Committee's looks at overall program effectiveness in terms of outcomes assessment, employer needs, graduate needs/deficiencies, and sets long-term goals for the program. This committee provides suggestions for improving any areas of concern, and may recommend program/policy changes as corrective actions.

One example of responsiveness was the Introduction to Vascular Sonography, which was an addition to the program at the request of multiple clinical sites in order to prepare students for vascular exams that would be performed during their internship.

II.A.1.d General Education **HISTORY**

The History program plays a significant role in General Education curriculum. First of all, three courses, HIST 1211, 1221, and 1251 all meet the V requirement as the Wyoming State Statute. Each of these courses has a defined common course assessment that has been approved via Academic Standards. The means to assess this has also been implemented in these courses as of fall 2014. It is expected that with the common course assessments and the standardization of common course assessments, that data will be gathered in the coming semesters regarding this requirement.

In addition to meeting the V requirement, History courses also meet the Human Culture - Cultural Awareness Institutional Competency. As of yet, all History and Religion courses that are currently being taught have approved MCORs, and the General Education application has been approved for all History and Religion courses. History faculty foresee that this process will be complete for the remaining History and Religion courses that will be taught in the future and will be completed by the time students sign up to take the classes. Below, the approved MCOR for HIST 2000, American Revolution, and the approved General Education for Human Culture - Cultural Awareness demonstrate how this process has progressed.

History students are encouraged to take their General Education courses in a timely manner. The current articulation agreement between UW and LCCC contains a suggested course curriculum map that demonstrates this. It can be found below.

II.A.1.d General Education **NURSING**

General education courses required by the nursing program are based on national and state recommendations. Moreover, general education courses were selected based on nursing faculty's beliefs centering on the educational requirements for today's nurses. Given the most recent national data about health care needs that include the most common illnesses, chronicity of illness, changing population demographics and more, the importance of fundamental general education is essential.

Human anatomy and physiology, microbiology, nutrition and social science courses provide essential foundational guidelines for LCCC nursing students. The importance of these courses is exemplified in the program's philosophy that describes the receiver of care: "a person is a biopsychosocial spiritual individual, who is continually interacting with a dynamic internal and external environment to achieve optimal health." As such, Human Anatomy is a prerequisite for application to the program. Nursing faculty members indicate that anatomy provides students with fundamental information on which more complex knowledge builds. Nurses' knowledge about pathophysiology is essential; and thus, the program's prerequisite for students to have successfully mastered an understanding of basic anatomy is essential. In addition, Human Physiology and a social science course are co-requisites for nursing theory and clinical practice. Nutrition is required in the second semester when students begin their clinical rotations in chronic care settings. Medical Microbiology must be completed by the third semester (second level) and provides students with enhanced knowledge about infection control practices and patient safety requirements.

A course in communication or public speaking is required to enhance students' abilities to communicate with a variety of patients and families. If students plan on continuing their education at the University of Wyoming they are encouraged to take Public Speaking as this a requirement for the Baccalaureate program. Interpersonal communication will not fulfill that requirement. In addition, LCCC students must

complete a course in each of the following categories: (a) college level math; (b) physical activity requirement (disappeared in 2015-16 but remains in nursing until fall 2016); and, (c) State of Wyoming constitutional requirement (POLS 1000; HIST 1211, 1221, 1251; or ECON 1200). These three courses are required for all students seeking a degree from LCCC. Notwithstanding the state requirement, nursing faculty maintain these courses may assist nursing students' overall development. Students may apply knowledge gained from these courses into their nursing practice. For example, mathematics is essential for safe nursing practices pertaining to data collection, specifically, medication administration and patient safety; physical activity knowledge may inform one's own lifestyle and wellness and help students better educate their patients; and the constitutional requirement helps inform students about their state and civil responsibilities.

The nursing program general education courses are identified on the table below:

Nursing Curriculum General Education Requirements

Semester	Course Number	Course
Prerequisites	**Math 1400** **ZOO 2015**	**College Algebra** **Human Anatomy**
First	**ZOO 2025** **ANTH 1200** **PSYC 1000**	**Human Physiology** **Cultural Anthropology or General Psychology**
Second	**HOEC 1140** **PE Activity** **ENGL 1010**	**Nutrition** **Selected by student** **English I: Composition**
Third	**MICR 2240** **COMM 2030**	**Medical Microbiology** **Public Speaking (Recommended)**
Fourth	**POLS 1000, or** **HIST 1211, or** **HIST 1221,or** **HIST 1251, or** **ECON 1200**	**American and Wyoming Government** **U.S. to 1865** **U.S. from 1865** **Wyoming History** **Economics, Law, and Government (choose 1)**

As previously noted, the nursing program is undergoing major curricular revisions and the new prerequisites will begin spring 2016 for students entering the program in fall 2016. The ReNEW curriculum incorporates the LCCC's change in general education courses which include adding COLS 1000--Introduction to College Success and deleting the PE requirement. The nursing faculty have worked with Academic Affairs in creating the new courses, making catalog changes and implementing new courses and MCORS for fall 2016. See the new ADN curriculum with the bolded general education courses in the table below:

LCCC ReNEW Curriculum Plan--ADN					Credit Total
Semester One-prerequisites	**ENGL 1010** **MATH 1400: College Algebra** **ZOO 2015 Human Anatomy** **COLS 1000—Introduction to College Success**			3 3 4 3	
			Total ADN credits		**13**
ADN Year Two	**Semester Two**	**Credits**	**Semester Three**	**Credits**	
	Health Promotion NURS 1100/1115	10	Chronic Care I NURS 1200/1215	10	
	ZOO 2025 H. Physiology	4	**PSYC 1000**	3	
			MOLB 2240 Med Micro	4	
	Total Semester Credits	**14**	**Total Semester Credits**	**17**	
				Total ADN credits	**44**
ADN Year Three	**Semester Four**	**Credits**	**Semester Five**	**Credits**	
	Acute Care I NURS 2300/2315 (UW upper division)	10	Complex Care NURS 2400/2415 (UW upper division)	10	
	COM 2010 Pub Spkg	3	**US and WY Gov't**	3	
	Total Semester Credits	**13**	**Total Semester Credits**	**13**	
				Total ADN credits	**70**

II.A.1.d General Education **PARALEGAL**

General education requirements in the paralegal program are required only for students in the A.A.S. option. The certificate option in the Paralegal program is a post-baccalaureate certificate, general education requirements are met with the students' completion of the baccalaureate degree. General education requirements for the A.A.S. option are: COLS 1000, ENGL 1010, CO/M 1010 or 1015, POLS 1000 or HIST 1211, 1221, or 1251, MATH 1010 or the Quantway Pathway, and a 4 credit hour STEM requirement. The majority of the general education requirements in the program are set according to the college's general education requirement. The program still requires a 4 credit hour lab science to meet ABA guidelines.

The program leverages general education courses such as ENGL 1010 to assist the student in research and document drafting requirements. ENGL 1010 also helps the students understand the need for use of proper grammar and spelling requirements necessary in legal research and document drafting. Courses such as HIST, POLS, or PSYC, for example, assist the student in research and the proper documentation of academic sources, all of which are critical to a Paralegal student understanding the requirement and necessity of proper citation in legal work. Many paralegal students may end up working in a situation where their job description includes general office administration in addition to

traditional paralegal work, courses in the business department can assist the student in better understanding those duties.

II.A.2 Design and manage instructional strategies MUSIC

The music program has a variety of delivery systems unique to the courses themselves. They are described in groups according to modes of learning and the acquisition of skills.

Cognitive/Analytical (Written and Aural Music Theory, Music History, Music Sound Technology and related courses)

The text for each course is interactive with multiple opportunities to listen, solve problems, and create original works that reflect the ongoing learning process. State-of-the-art recording equipment, sound system, smart board technology and access to the internet facilitate discovery, learning, and opportunity to reflect and evaluate. There is constant exchange of information and questions between instructor and students as they seek to understand and assimilate new information.

Skill Development (Applied lessons, large and small ensembles, piano proficiency)

Students have access to printed and recorded works from all stylistic periods through the use of YouTube, CDs, and other media. Repertoire is developed for the specific instrument or ensemble. Individual lessons utilize the piano and recording/playback technology for evaluative purposes. Juried performances typically take place in the large classroom (FA 118), and a sophomore recital is given off campus in a more formal setting. Ensemble repertoire is programmed for concert performance and tied to cognitive/analytical competencies. Performances are given at various venues in the community and recorded for evaluative and archival purposes. Piano proficiency courses utilize electronic keyboards that allow students to practice using headphones, perform ensemble works, and conduct peer evaluation. Piano texts include an audio CD to reinforce skills acquired in class. Students in Level IV piano also hone skills during choral rehearsals by giving pitches and playing short excerpts as needed.

MUSC 0200 is an unusual addition. It is a line item for zero credit that documents attendance at master classes and student convocations, and transfers to the four-year institution. This mirrors what music majors are required to do at their transfer institution: establish a record of attendance at a specified number of concerts, recitals, master classes. There are several significant outcomes:

- Peer evaluation and supportive feedback during master classes
- Opportunity to learn from faculty and other students in an informal setting
- Opportunity to hear solo repertoire outside primary instrument
- Preparation for convocation and jury
- Formal recital opportunity to perform prepared repertoire
- Preparation for audition to transfer institution

This requirement connects performance literature to cognitive/analytical and skill-developing courses

II.A.3 Process to align with Student Services **HVAC-R**

The HVAC/R program works closely with an assigned liaison in student services to ensure students complete mandatory orientations and COLS 1000 freshman seminars. At-risk students are identified during the recruiting process and assigned a case-worker that continues to support them throughout their experience at LCCC. Student performance is closely monitored to ensure early intervention should they begin to struggle with the course material or external life experiences. This arrangement between student services and the HVAC/R program has helped produce a retention rate of 92 % during the spring 2015 semester.

II.A.4 Process to ensure academic integrity **HISTORY**

The faculty within the History program utilize a variety of methods to both prevent academic dishonesty and to discover when it has occurred. First, all faculty are required to include within their syllabi information covering the Student Handbook, which provides an explanation of what constitutes academic dishonesty for all students. In addition, faculty engage in several alternative methods to avert the temptation to cheat.

Many syllabi include comprehensive statements regarding the class' academic dishonest policy. The following is an example of this practice:

> Academic Honesty: Plagiarism will not be tolerated; a plagiarized paper will automatically receive a zero. You are also expected to do your own work. Students who write the paper together and turn in essentially the same copy will receive an automatic zero. You are required to turn your papers and the written portion of the debates into the turnitin.com site.

Students who are found to be cheating on discussions, tests, papers or any assignment related to class will receive an automatic F in the class and will be reported to the LCCC Care Team.

The D2L website also allows papers to be turned into a drop box in which an originality check occurs. Many faculty use this option when utilizing D2L.

Assignments within the History Department are often antithetical to academic dishonesty. For example, many assignments require using primary resources. The use of these resources makes it quite difficult to find pre-made work on historical subjects. In addition, the faculty regularly change the assignments, books, and subjects covered in papers, debates, research projects, and historical investigations. The variety of assignments and the originality of assignments discourages the recycling of papers and the use of plagiaristic resources.

The History faculty's creation of tests also discourages academic dishonesty. Tests are regularly written from scratch each semester. In the History online courses, the tests are created by the faculty; pre-made course tests based on the testing bank from the textbook are not used. This practice resulted from the discovery that students in the past had been able to access the textbook questions online. In addition, the online tests are timed, and students do not have the ability to review portions of the tests without being under the supervision of the instructor.

While eliminating all academic dishonesty may not be achievable, the commonly used practices within the History department dissuade plagiaristic practices and encourage the production of original work.

II.A.4 Process to ensure academic integrity **NURSING**

The Nursing Program ensures academic integrity by providing multiple faculty professional development activities throughout the year. An example is in spring 2015 nursing faculty attended the Wyoming Nursing Education Summit in Casper. During this time, faculty attended many sessions on concept based curriculum design, delivery and evaluation. This summit provided for information on evidence based nursing practice for educators.

Programmatically, integrity is ensured by computer based testing for all nursing exams which randomly generates the order of questions and answers. This prevents students' ability to look at another student's exam. For all research papers, students must first submit their paper to "TurnItIn" and provide a copy of the generated analysis pertaining to plagiarism percent to their instructor. This ensures students are actively engaged in critical thinking and analysis of professional nursing journals and articles.

These research based writing assignments were developed in collaboration with the nursing librarian, the director of the writing center and the Center for Learning Technologies. These individuals helped the faculty determine the threshold for acceptability of nonreferenced material which was determined to be less than 15%. The requirements are included in nursing syllabi and under the "Professional Conduct/Confidentiality" Policy in the Nursing Student Handbook. Both the syllabi and handbook are reviewed with students on the first day of class. In addition, academic integrity is addressed on page 8 of the Allied Health Student Policy which is included in the Nursing Student Handbook.

Academic integrity is of special import for health care students who have access to patient health records and must abide by HIPAA (Health Information Portability and Accountability Act). Students sign a "Student Confidentiality and Responsibility Statement" and an agreement of "Compliance with Policies" after the initial student orientation held the first day of the program.

II.A.5 Aligning curriculum with high schools and universities **NATURAL SCIENCES**

Downstream, the Natural Science Program has developed 5 program 2+2 articulations with the University of Wyoming (UW) including: Department of Botany (College of Arts and Science) for our concentration in Biology (1), Department of Zoology and Physiology (College of Arts and Science) for our concentrations in Physiology (2), Wildlife Biology (3) and Zoology (4) and with the Division of Kinesiology and Health (College of Health Sciences) for our concentration in Human Biology (5). We have also forged a unique 1+3 articulation with Department of Geology (College of Arts and Science). We are currently in the process of developing articulations with the UW Department of Animal and Veterinary Sciences (College of Agriculture and Natural Resources), Department of Molecular Biology (College of Agriculture and Natural Resources), Department of Chemistry (College of Arts and Science), Department of Geography (College of Arts and Science), and plan to explore articulations with various departments at other regional Bachelors granting institutions (e.g. Black Hills State University, Chadron State College, Colorado State University, University of Northern Colorado). These articulations may involve the creation of new concentrations to meet other needs.

http://www.uwyo.edu/kandh/wy-transfer-students/

http://www.uwyo.edu/zoology/do_you_have_an_associates_degree/

Upstream, the Natural Science faculty regularly collaborate with those in secondary education. The Bioblitz event offered each year, allows LCCC students to work with neighboring high school students to catalog life found on LCCC campus. This year's bioblitz saw a total of 41 participants including many from LCCC and Cheyenne South High School. Our list of identified species grew to 88 total species observed and identified. The Zoology faculty also regularly correspond with local secondary schools to discuss core concepts covered, exams and course offerings. There are also many on-campus activities offered to local high school students like the DNA finger printing lab and the science fair, which reinforce connections made with secondary schools.

II.B.1 Develop and sustain a comprehensive feedback system **NURSING**

The LCCC Nursing Program uses a variety of evaluation methods to determine student and stakeholder needs. These data are provided in the Nursing Program's Systematic Plan for Evaluation (See sample SPE below) which reflects 3 years of data. Stakeholder and student input are reflected in standards 1.1, 1.2, 1.3, 1.4, 6.2 and 6.3. Student grievances and complaints are addressed in standard 3.7. The program uses a variety of surveys and questionnaires. These include: student evaluations of faculty for both clinical and classroom, faculty evaluation of clinical sites, faculty evaluation of resources, graduate surveys, and employer surveys. Findings from these surveys are found in Standards: 4.9, 4.10, 5.1, 5.2, 5.3, 6.2, 6.3, 6.4.2 and 6.4.4.

In addition to these types of feedback, student performance on a variety of evaluative tools are used to inform programmatic change. Those include, but are not limited to: student performance on campus rubrics for applying problem-solving skills and written communication, unit exams, comprehensive finals, predictive standardized exams and licensure exams.

The most recent accreditation site visit (fall 2011) showed no deficiencies. LCCC's nursing program was the only program in the state to receive full accreditation with no follow up reports.

Sample of a Program Self-Evaluation Feedback System: Nursing Program's Systematic Plan for Evaluation

Component	Expected Level	Evaluators	Assessment Method	Results of Data	Actions for Program Development, Maintenance, or Revision
6.2 Evaluation findings are aggregated and trended by program option, location, and date of completion and are sufficient to inform program decision-making for the maintenance and improvement of the student learning outcomes and the program outcomes.					
2.Evaluation Findings	100% of Aggregated evaluation findings are used to inform program decision making and/or used to improve student learning outcomes.	Nursing Director, faculty	All course student evals, facility evaluations of program, grad surveys, employer surveys, NCLEX program reports, faculty evals of college and facilities, advisory board input, student performance on exams, clinical evaluation tools, standardized exams (i.e. Kaplan Readiness and Diagnostic), college wide and course specific rubrics, college exit exam	2012-13: Evidence that curriculum changes are having an impact. NCLEX- RN pass rates increased significantly. Student performance on exams improving. 2013-14: Goal met. Evaluation findings are driving program decisions. For example, all fourth semester students take Kaplan diagnostic readiness exam in first week of class. Data reviewed to identify weak areas and curriculum enhanced as necessary to ensure students ready for NCLEX-RN. 2014-15: NCLEX program reports and item analysis on unit exams indicate students missing basic safety questions and choosing higher level more complex answers.	2012-13: Monitor and continue to refine curriculum and delivery based on student performance 2013-14: Areas of concern are being strengthened in coursework. Added more pharmacology and leadership to 4th semester. Moved some content to different semesters to enhance student learning and to make room in 4th semester to have leadership skills and to enhance critical thinking abilities for care of the more complex patient. Will place more emphasis on basic nursing care in clinical. Students are not focusing on basics, but jumping to complex when answering test questions.

II.B.2 Program research findings: results/analysis **NURSING**

The nursing program has a mature feedback system and generates annual reports regarding student success for valued indicators such as: completion rates, licensure pass rates, graduate satisfaction, employer satisfaction and job placement. Three years of data can be seen in the SPE Standard 6: Outcomes. Other data can be reviewed in the document library under 2014-15 Program Analysis (KPI) Results. The average for the 4 areas assessed is 4.25 with 5 being the highest.

In the "participation section" the program has decreased enrollment 3 times over the last 5 years. Once, by disbanding the online option for LPNs due to poor outcomes and then twice due to decreasing clinical site availability. It is predicted that enrollment will remain steady barring further intentional decreases. These intentional decreases in enrollment caused this section to receive 4/5.

The student Success rates are high and predicted to remain high. The area of note is the licensure pass rates although the nursing faculty feel they are exemplary. The Wyoming State Board of Nursing requires that pass rates remain above 75% and the LCCC nursing program has never dropped below that benchmark. The Accrediting Commission for Education in Nursing (ACEN) requires that NCLEX-RN pass rates remain above the national average which LCCC has done for several years. Overall this section did receive 5/5.

The learning environment received 5/5, but efficiency received 3/5 largely due to the cost of the program. Unfortunately, expenditures are not forecasted to decrease as the Wyoming State Board of Nursing Rules and Regulations requires a faculty to student ratio of 1:8 for all clinical experiences. This drives costs up per FTE and are outside the control of the program and LCCC.

Other indicators of student performance on the semi-annual NCLEX reports for both the PN and RN level. These reports are generated by student performance on the licensure exams and have 28-44 items assessed, depending on the level of the exam. The faculty meet twice yearly to peruse these reports and to identify areas performing strongly and areas needing improvement. See the NCLEX Program Report Apr 2014-Mar 2015 for the most recent data.

II.B.3 Discovery: Strengths, Concerns, Challenges, and Opportunities **COMPUTER SCIENCE**

- Strengths ◦Matriculation rate
  - ◦Graduation rate
  - ◦Faculty expertise
  - ◦student/faculty ratio
  - ◦Full time faculty teaching courses
  - ◦Technology (hardware and software)
  - ◦Active and productive articulation with UW and the other community colleges

- Challenges ◦currency due to ever changing technology
  - ◦Coordination and recruitment with the secondary schools in our area

- Opportunities ◦Sought after credentials for graduating students
  - ◦New scholarship monies

- ◦Outreach to secondary schools
- Concerns:
    - Enrollment numbers
    - Student course success rates

II.C.1 Improvements implemented in the last five years NURSING

The nursing faculty meet every other week throughout the academic year to work on curriculum. All curriculum is reviewed and revised as necessary, based on NCLEX results, NCLEX program report data, student success in both nursing courses and program, and other items of assessment. The following changes are examples of changes made in the last 5 years based on data received:

•Spring 2010 The Wyoming State Board of Nursing conducted an interim site visit due to increasing attrition rates. The faculty implemented several changes to encourage student success and the program was found to be in full compliance by the time of the site visit. Examples of those changes were switching to a different entrance exam, early advising, early intervention and required remediation for students struggling in the nursing courses, referrals to counseling, student success and other services available on campus, bringing in a consultant for item writing on Nursing Exams, and critically looking at entrance requirements.

•Spring 2011: In an effort to continue to improve NCLEX-RN pass rates and decrease attrition, the program entered into a contract with Kaplan Integrated Testing Services. Kaplan provides NCLEX style testing over a multitude of subjects in alignment with the NCLEX PN & RN test plans. Students are required to take exams, as scheduled, throughout the program culminating in an NCLEX-RN review course their final week in the program and the Kaplan Readiness Exam being used as the final exam in the last nursing course (NRST 2640). The program has seen significant improvement in NCLEX results since the implementation of the integrated testing.

•With the implementation of Kaplan, the nursing program changed the entrance exam to the Kaplan entrance exam in fall 2012. This exam is free to students. Faculty discovered that students who scored low in reading comprehension had poor outcomes and success, so a reading level requirement was implemented (73 percentile rank for reading comprehension).

•2012-13 Faculty determined that MATH 1000-Problem Solving was not thoroughly preparing students for drug calculations and a BSN curriculum. The Math requirement was changed to MATH 1400--College Algebra for students beginning the program in fall 2013. Research indicated that College Algebra was a better predictor of student success, which has proven true for nursing.

•No significant curricular changes since 2013 as faculty gearing up for implementation of ReNEW fall 2016.

III.B.3 Program interaction/engagement with its discipline NATURAL SCENCES (BIOLOGY)

Conference and Workshops Attended (10 NS faculty and 53 students have attended 36 professional conferences, workshops and meetings):

- Introductory Physics Laboratory Writing Conference IX. ATE Project for Physics Faculty, Baytown, TX. Fall 2015 (Brian Uzpen).
- Colorado Veterinary Medical Association Convention 2015. Loveland, CO, 17–20 September 2015 (Michele Albert).

- 2015 Wyoming INBRE Fall Retreat, Jackson Lake, WY. 10–12 September 2015 (Meredith Roehrs, Zachary Roehrs, Ami Wangeline +4 students).
- 2015 Esri Education GIS Conference, San Diego, CA. 18–21 July 2015 (Trent Morrell).
- 95th Annual Meeting of the American Society of Mammalogists, Jacksonville, FL. 12–16 June 2015 (Meredith Roehrs, Zachary Roehrs).
- Wyoming Undergraduate Research Day, University of Wyoming, Laramie, WY. 2 May 2015 (Meredith Roehrs, Zachary Roehrs, Ami Wangeline +12 students).
- North West Biology Instructors Conference, University of British Columbia, Vancouver, BC. 1–3 May 2015 (Clint Reading).
- Northwest Partnership for Undergraduate Life Sciences Education (NW PULSE) Community of Practice Workshop, Cohort II. Talaris Conference Center, Seattle, WA. 16–18 October 2014 (Clint Reading, Zachary Roehrs, Ami Wangeline).
- e-Volution: Innovations in Learning Environments Conference, University of Wyoming, Laramie, WY. 25–26 September 2014 (Trent Morrell, Trina Kilty).
- 2014 Wyoming INBRE Fall Retreat, Jackson Lake, WY. 11–14 September 2014 (Meredith Roehrs, Zachary Roehrs, Ami Wangeline +6 students).
- 1st Wyoming Coccidia Workshop, University of Wyoming – Casper, Casper, WY. 20–21 June 2014 (Zachary Roehrs – Organizer).
- 2014 Institute on High-Impact Practices and Student Success, Vanderbilt University, Nashville, TN. 17–21 June 2014 (Trent Morrell).
- 94th Annual Meeting of the American Society of Mammalogists, Oklahoma City, OK. 6–10 June 2014 (Meredith Roehrs, Zachary Roehrs).
- Wyoming Distance Education Conference, Laramie County Community College, Cheyenne, WY. 19–20 May 2014 (Trent Morrell).
- CHEO Discipline Panel Faculty Professional Development Workshop, Boulder, CO. 15–16 May 2014 (Qing Du, Rich Laidlaw, Zachary Roehrs, Ami Wangeline).
- Wyoming Undergraduate Research Day, University of Wyoming, Laramie, WY. 26 April 2014 (Meredith Roehrs, Zachary Roehrs, Ami Wangeline +5 students).
- Introductory Physics Laboratory Writing Conference V. ATE Project for Physics Faculty, Baytown, TX. 26–28 September 2013 (Brian Uzpen).
- 2013 Wyoming INBRE Fall Retreat, Jackson Lake, WY. 12–15 September 2013 (Meredith Roehrs, Zachary Roehrs, Ami Wangeline +3 students).
- 44rd Annual Meeting of the Rocky Mountain Conference of Parasitologists. Cedar Point Biological Station, University of Nebraska, Ogallala, NE. 5–7 September 2013 (Zachary Roehrs).
- Botany 2013, Botanical Society of America Conference, New Orleans, LA. 27–31 July 2013 (Meredith Roehrs, Zachary Roehrs, Ami Wangeline +2 students).
- American Association of Physics Teachers Two-Year College Tandem Meeting, Portland, OR. 16 July 2013 (Brian Uzpen).
- American Association of Physics Teachers Two-Year College Leadership Conference, Portland, OR. 12 July 2013 (Brian Uzpen).
- 2013 Pacific Veterinary Conference, Long Beach, CA. 20–23 June 2013 (Michele Albert).
- Tegrity Conference 2013, Centralia College, Centralia, WA. 1 May 2013 (Trent Morrell, Trina Kilty).

- Wyoming Undergraduate Research Day, University of Wyoming, Laramie, WY. 27 April 2013 (Meredith Roehrs, Zachary Roehrs, Ami Wangeline +5 students).
- Introductory Physics Laboratory Writing Conference III. ATE Project for Physics Faculty, Avondale, AZ. 27–29 September 2012 (Brian Uzpen).
- 2012 Wyoming INBRE Fall Retreat, Jackson Lake, WY. 13–15 September 2012 (Meredith Roehrs, Zachary Roehrs, Ami Wangeline +3 students).
- 43rd Annual Meeting of the Rocky Mountain Conference of Parasitologists. Cedar Point Biological Station, University of Nebraska, Ogallala, NE. 6–8 September 2012 (Zachary Roehrs).
- American Association of Physics Teachers Summer Meeting, Philadelphia, PA. 27 July – 1 August 2012 (Brian Uzpen).
- Wyoming Undergraduate Research Day, University of Wyoming, Laramie, WY. 21 April 2012 (Meredith Roehrs, Zachary Roehrs, Ami Wangeline + 7 students).
- e-Learning Conference, Instructional Technology Council, Long Beach, CA. 18–21 February 2012 (Trent Morrell).
- Introductory Physics Laboratory Writing Conference I. ATE Project for Physics Faculty, Baytown, TX. 3–5 November 2011 (Brian Uzpen).
- 2011 National Association of Biology Teachers Professional Development Conference, Anaheim, CA. 12–15 October 2011 (Meredith Roehrs, Ami Wangeline).
- North American Network of Science Labs Online Biology workshop, North Island College, Vancouver Island, BC, Canada. 28 September – 1 October 2011 (Ami Wangeline).
- 2011 Wyoming INBRE Fall Retreat, Jackson Lake, WY. 15–17 September 2011 (Meredith Roehrs, Zachary Roehrs, Ami Wangeline +3 students).
- 2011 Western Regional IDeA Scientific Conference, Reno, NV. 5–7 June 2011 (Zachary Roehrs, Ami Wangeline +3 students).

Professional Society Membership (7 NS faculty are active in 21 professional societies):

- American Academy for the Advancement of Science – Ami Wangeline (Full Member)
- American Association of Physics Teachers – Brian Uzpen (Full Member)
- American Astronomical Society – Brian Uzpen (Full Member)
- American Hearing Aid Association – Caroline Ross (Full Member)
- AMerican Society of Mammalogists – Meredith Roehrs (Life Member; Presentation Evaluator); Zachary Roehrs (Life Member; Membership Committee; Presentation Evaluator)
- American Phytopathological Society – Ami Wangeline (Full Member)
- American Society of Parasitologists – Zachary Roehrs (Full Member)
- American Veterinary Medical Association – Michele Albert (Full Member)
- Association of American Geographers – Trent Morrell (Full Member)
- Botanical Society of America – Zachary Roehrs (Full Member); Ami Wangeline (Full Member)
- Cheyenne-High Plains Audubon Society – Zachary Roehrs (Full Member)
- Cheyenne Veterinary Medical Association – Michele Albert (Full Member)
- Great Plains Natural Science Society – Zachary Roehrs (Full Member)
- Hispanic Organization for Progress and Education – Caroline Ross (Full Member)

- Human Anatomy and Physiology Society – Michele Albert (Full Member); Meredith Roehrs (Full Member)
- National Association of Biology Teachers – Meredith Roehrs (Full Member); Ami Wangeline (Full Member; Committee Member of Two-Year/Four-Year Articulation Committee, 2009–2012)
- Phi Beta Kappa – Meredith Roehrs (Full Member)
- Rocky Mountain Conference of Parasitologists – Zachary Roehrs (Full Member)
- Society for Northwestern Vertebrate Biology – Zachary Roehrs (Full Member)
- Society for the Preservation of Natural History Collections – Zachary Roehrs (Full Member)
- Southwestern Association of Naturalists – Zachary Roehrs (Full Member)

III.B.3 Program interaction/engagement with its discipline NURSING

The Nursing Program encourages active participation in professional organizations and educational best practices.

Faculty members attend a major conference each year in addition to a one or two day workshop pertinent to their content or clinical area. The faculty are encouraged to attend workshops and conferences to maintain both their clinical and educational expertise.

LCCC also hosts a variety of inservices for educators which the nursing faculty members attend each semester. There has also been much training for online courses, testing, rubrics, assessment and different course delivery methods.

The majority of the faculty also attends a major conference once a year such as the Nurse Educators Conference of the Rockies, Boot Camp for Educators and other national conferences. In addition, nursing educators around the state meet annually for the Wyoming Nurse Educator's Summit. Examples of recent clinical workshops attended are: Pharmacology, Cardiac Medications and Diabetes Updates. Adjunct faculty are strongly encouraged to attend the Wyoming Nurse Educator's Summits (and expenses are paid) in addition to the weekly faculty/curriculum meetings. They are also invited to the week of College Inservices at the start of each semester.

In addition, all full-time and adjunct nursing instructors are members of the National League for Nursing (NLN) through a programmatic membership. Many faculty are members of the Wyoming Nursing Association (WNA) and the American Nursing Association (ANA). The Nursing Program has a subscription to Nurse Tim Webinars which address current trends in nursing education, student assessment, and clinical education. Additionally, there is an active Nursing Advisory Committee which meets twice a year. All of this activity help ensure current standards affecting student learning competencies, awareness of job market forecasts, and helps faculty grasp new developments and strengthen the nursing program quality.

III.B.3 Program interaction/engagement with its discipline PARALEGAL

The program director continually maintains her communication with professional affiliations and professional peer to perpetuate the process of professional and program development in the program curriculum. As stated previously, the program is approved by the American Bar Association. This approval gives credibility to the program. ABA approval is known to students and the employers who

will hire graduates as a statement of academic integrity and rigor. The program is also a member of the American Association for Paralegal Educators (AAfPE). The program director attends national and regional AAfPE conferences when time and travel budgets allow. Attendance at conferences allows the program director to learn new and innovative techniques of teaching in the paralegal area. These techniques are brought back to the program and shared with both the adjunct faculty during faculty meetings and the paralegal advisory committee. The program director is a licensed attorney and a member of both the Wyoming State Bar and the Laramie County Bar Association. The program director has on several occasions made presentations to the local bar on the proper utilization of a paralegal and presented to the state Paralegal association on ethics and evidence. These contacts and presentations assist attorneys who will be hiring graduates of the program to understand what a paralegal can do for them and how hiring a paralegal will benefit their practice. The membership in both the state and local bar associations allows to the program director to maintain direct contact with the employer pool that will employee graduates of the program.

As stated previously, nearly all of the adjunct instructors in the program are licensed and practicing attorneys hired for their expertise in the topics they teach. All of the attorneys are members of the Wyoming Bar Association and several are also members of other professional organizations that allow them to bring the most current issues in the topics they teach to the classroom**.**

III.B.4 Managing program demand **PARALEGAL**

The Paralegal program manages student demand by monitoring KPI participation indicators and past enrollment patterns. In looking at the KPI data, FTE enrollment can be considered a weakness. The average data number for participation is 2, which is not the lowest, but is an option for improvement. Based on that KPI number, the Paralegal program has chosen "increase enrollment" as one of its organizational effectiveness outcomes in the program's assessment plan.

The program seeks to strengthen student persistence by developing a clear pathway to finishing both the A.A.S degree and the Certificate option. The paralegal program core courses are taught in a sequence and students are advised of that sequence and the proper way to work through the program. The program information on the LCCC website clearly establishes the program sequence as well as providing potential students with important information about the paralegal career.

III.B.5 Developing Collaborations/Partnerships **NATURAL SCIENCES (BIOLOGY)**

Collaborations (at least 6 NS program faculty are involved in at least 14+ collaborations serving an incalculable number of students):

- Zachary and Meredith Roehrs developed collaboration with Laramie County Conservation District (http://www.lccdnet.org/) to provide an internship, research and educational experiences for undergraduates while providing expertise and data to meet LCCD's management needs and educational goals.
- Science faculty lead by Meredith Roehrs and Kari Brown-Herbst and including Zachary Roehrs, Clint Reading, and Ami Wangeline formed the LCCC Science Learning Outcomes Subcommittee to help

developed the WICHE Interstate Passport Initiative, Phase II (http://www.wiche.edu/passport/home).

- Continued participation in Wyoming INBRE Network (http://www.uwyo.edu/wyominginbre/) has brought in almost $500,000 in extramural funds since it began in 2008 supporting the purchase of equipment and supplies for undergraduate research and teaching in the NS program. A total of 63 students have been directly supported and countless more have also benefited from this equipment and support. In the NS program this effort is led by Ami Wangeline (PI: 2008–present) and Zachary Roehrs (PI: 2015–present) with participation by Michelle Albert, Clint Reading and Meredith Roehrs.
- Zachary Roehrs and Meredith Roehrs have an ongoing collaboration with faculty at the University of Wyoming, Casper, and the National Park Service (http://www.uwyo.edu/uwnps/index.html) studying the longitudinal successional effects of the 1988 Yellowstone fires on small mammals and invertebrates. This project has included 7 LCCC students and 11 UW students since 2011 participating in field work and undergraduate research projects. It has also included 1 faculty member from the UW Department of Education studying how these experiences educate STEM students and influence career pathways and success. In 2015 it also included 3 Natrona County teachers who participated as part of a workshop where they participate in fieldwork, we discuss how to incorporate inquiry based research into their curriculum, and they developed a lesson plan.
- Ami Wangeline is a collaborator with Kim Pacheco at the University of Northern Colorado to obtain a new Scanning Electron Microscope for UNC. This collaboration has allowed for UNC to purchase a new SEM and allow LCCC to acquire their old SEM. This has provided unique opportunities for undergraduate research, training and education not available to most undergraduate students.
- We have faculty involvement in various panels (Biology, Chemistry, and Physics) to provide suggestions/feedback on developing the Remote Web-based Science Laboratory (http://www.wiche.edu/nanslo/labs-rwsl) for online science courses as part of Consortium for Healthcare Education Online and the North American Network of Science Labs Online (http://www.wiche.edu/nanslo/cheo).
- LCCC, lead by Trent Morrell, is a collaborating member of the Cheyenne and Laramie County Cooperative GIS Program (http://www.clcgisc.com/).
- LCCC in general has had strong ties with the Wyoming State FFA Association (http://www.wyomingffa.org/) through our Agriculture programs, but the NS program also has a strong collaboration with the FFA lead by Trent Morrell who has coordinated their annual convention since date, and with participation of other NS faculty (Carmen Kennedy, Zachary Roehrs) as evaluators and assistants in this event.
- Trent Morrell has established collaborations with a number of geospacial groups which provide data, tools and other resources to our students including: National Weather Service of Cheyenne http://www.weather.gov/cys/, KGWN-TV Meteorology Dept. http://www.kgwn.tv/weather, University of Northern Colorado Earth and Atmospheric Sciences Dept. http://www.unco.edu/nhs/esci/, National Geospatial Technology Center of Excellence http://www.geotechcenter.org/, Integrated Geospatial Education and Technology Training (iGETT) http://igett.delmar.edu/.
- The NS program faculty have many other research and educational collaborations with faculty and students at Colorado State University, Oklahoma State University, University of Nebraska, University of Northern Colorado, and University of Wyoming.

III.B.6 Communication **HVAC-R**

The HVAC/R program currently has one full-time employee and one adjunct who teaches the mechanical piping course for approximately 8 weeks. There is currently no need for weekly meetings with HVAC/R instructors. Monthly meetings are held between the Dean of the School of BATS and faculty. Meetings will occur with HVAC/R faculty as enrollments increase and the program gains additional full-time and adjunct faculty. At that time meetings between instructors will take place on a monthly basis prior to the school meeting to identify issues that require discussion among other program faculty. In addition, current HVAC/R faculty contribute to institutional services such as the student course questionnaire committee and faculty senate to communicate its interests to institutional level processes, as well as articulate information from the institutional processes to CTEC faculty.

III.B.8 Process for determining resources: library, space, IR services, & technology **ART**

Library materials are routinely purchased to support student research topics on art, art history, artists, methods and techniques. Books on the subjects of painting, drawing, sculpture, ceramics, printmaking, and metals are used by our art students for inspiration, seeing examples and learning more about techniques. As of April 2010, the art sections of the library collection included 2,213 titles in the circulating collection and 53 reference titles. For analysis purposes, we examined the following Library of Congress classification sections of the collection: Fine Arts – N; and the ceramics, pottery, glass and metals/jewelry-making subject areas of the TP, TS and TT classification sections. Approximately 44% of the book collection was published from 1990 to the present; however, date of publication is not a primary issue in building a collection to support many topics in art.

III.B.8 Process for determining resources: library, space, IR services, & technology DIAGNOSTIC SONOGRAPHY

We evaluate the programs' effectiveness each year through our surveys sent out to our students, clinical sites and advisory committee. All of these stakeholders provide valuable feedback and help us to determine what we need in order to be successful. As stated below in the chart, we take into consideration the feedback and we look for means to improve. i.e. garnishing equipment from clinical sites and asking for one time moneys for large purchases.

#	RESOURCE	PURPOSE (S)	MEASURE-MENT SYSTEM	DATE MEASURED	RESULTS – ANALYSIS (COMPOSITE SUMMARY)	ACTION PLAN
5	LAB EQUIP-MENT AND SUPPLIES	To provide students with the equipment and exercises that will adequatel y prepare them for clinical practice.	1. Student resource surveys, questions II.A.5 & B.5-7 2. Program personnel resource surveys, questions II.A.5 & B.5-7	1.October each year	1. Majority of students surveyed in 2013 rated the Laboratory Equipment and Supplies at or above the "cut score" of 3 on a 5 point Likert scale. 2. All program personnel surveyed in 2013 rated the Laboratory Equipment and Supplies at or above the "cut score" of 4 on a 5 point Likert scale.	1. Five students indicated a need for more updated and variety of equipment. The Program is currently pursuing funding to purchase a new machine. Also in talks with a clinical site that is considering donating a newer machine.

III.B.8 Process for determining resources: library, space, IR services, & technology NURSING

Fiscal, physical, and learning resources promote the achievement of the goals and outcomes of the nursing program. Fiscal resources are sustainable, sufficient to ensure the achievement of the student learning outcomes, and commensurate with the resources of the governing organization and with the resources of the School of Health, Science and Wellness (HSW).

The nursing director is responsible for program expenditures for supplies and equipment. Nursing faculty are free at any time to request an item they need or they think would benefit the program. Large purchases are discussed with the entire nursing faculty and agreed upon prior to purchases. Examples of recent large expenses include three new high-fidelity patient simulators including NOELLE which is a life-size female simulator that is capable of different types of birth and complications.

Physical resources (classrooms, laboratories, offices, etc.) are sufficient to ensure the achievement of the nursing program outcomes and meet the needs of faculty, staff, and students. During the process, faculty and staff from the nursing program and other health related programs are actively involved in the planning and development. Annual discussion and "Faculty Evaluation of the College' for Education Facilities, resources and service help determine projected needs."

Learning resources and technology are selected with faculty input and are comprehensive, current, and accessible to faculty and students. The learning resources at Laramie County Community College are current, comprehensive and accessible to all faculty and students. The Ludden Library is a major learning resource for the students. The library employs a knowledgeable staff to support the instructional programs and to assist both students and faculty. It integrates print and electronic resources.

The nursing faculty participates in the selection of materials for the nursing students. At the beginning of each first semester class the students are given an in-depth orientation to the library and all of the resources available to them during the course of their studies. Each semester, copies of all syllabi are forwarded to the Librarian, Meghan Kelly, whose position is dedicated to health science instruction for review. She keeps the faculty apprised to any new or additional materials and confers with them as to materials to be kept on hold to enable all students to be able to access material that is incorporated into the course work. There is also an ongoing review of the material for the purpose of keeping current on new and evidence based nursing practice. As research components are part of instructional assignments for each semester, the continued vigilance of the content in the library is vital. There is also the ability to stream directly into the D2L platform for viewing by students when they are off campus or directly into the classroom should an instructor wish to show it during class time.

Each academic year the entire faulty engage in an evaluation of current textbooks and instructional material. Changes are made to keep current with practice, clarity of information and consideration of cost to students. The bookstore, publication representatives and faculty collaborate for the best possible manner of offering the required materials to the students. Faculty has the option to utilize recordings of lectures as an additional learning tool for students. The program also collaborates with clinical sites to allow students to attend in-services on pertinent information affecting clinical practice. In addition, student representatives from each nursing cohort attend monthly faculty meetings and are

afforded an opportunity to present any current students needs and feedback on current textbooks, technology, supplies, and support.

As demonstrated, the nursing program utilizes a regular process for determining resources that includes analysis of regular (annual) feedback from students, faculty, and other stakeholders (including program accreditation) on needs. With faculty engagement, the nursing program develops a prioritized running list of needed resources to determine long- and short-term planning. The nursing program provides opportunities for faculty/staff consideration of these needs in institutional budget processes and/or for communicating resource needs with entity liaisons, such as those in the library or technology services

III.C.1 Develop and sustain a comprehensive feedback system BUSINESS & FINANCE/ACCOUNTING

Program objectives are:
--Objective 1: The program will strengthen its process(s) to increase graduation rates.
--Objective 2: The program will strengthen its process(s) to increase the transfer rate of students into baccalaureate programs.
--Objective 3: The program will strengthen its process(s) to increase the graduation rate of students in baccalaureate programs at UW.

Objective 1: The program is developing an effective feedback method for course success rates for courses, beginning with ACCT 2010; this contributes to graduation rates. While our number of degrees awarded and matriculation indicators are strong, our course success rates and graduation rates are pulling the scores down.

Our Business Team is designing its own data capturing methods to measure the effectiveness of its strategies, not merely relying on KPIs. Below is an example of the program's development of feedback. This method is emerging as a best practice for the campus because if its emphasis on strategy assessment. The next step is to improve the methodology and sustain time trend descriptions in the future. Currently, the planning in Aquila is beginning to reveal feedback information with the January 2016 data report.

Faculty will contact students early who have missed two consecutive classes. For online classes faculty will contact students who have missed two consecutive submissions. Eleven students were contacted about attendance, via Starfish and phone. Of those five students passed the class.

Faculty will contact students with marginal (defined as less than 70%) performance on two consecutive submissions. Twelve students were contacted about marginal performance, via Starfish and phone. Of those eight students passed the class.

Given that there are three new faculty members teaching this class this semester, lead faculty will work closely with new faculty members and the group will collaborate on best practices. Weekly department meetings were held, giving faculty the opportunity to collaborate. Faculty also met with Jeri Griego on many occasions and she provided assistance, guidance and advice on how to deal with several different aspects of teaching the course, course content, exam strategy, homework collection, as well as how to

handle student issues. She provided materials for exams and quizzes based on her experience that represented the course material in the most comprehensive way.

Implement, on a trial basis, the use of online tutorial resources. Cengage (online) was utilized for homework and tutorials. Students did voice that the platform helped them master the topic, although there were some complaint about the user interface.

Objective 2: The Business department faculty works closely with the University of Wyoming. We meet on an annual basis to review courses and articulation agreements. Over many years, this has been a course by course articulation agreement. However, in 2015 the Chair of the Business Program took the initiative to develop the first articulation agreement in the state for the Business and Finance Program and the Accounting Program. This agreement has been signed by the University of Wyoming and is being used as a model for other colleges throughout the state.

The purpose of these program articulations is to provide a clear pathway for our students, ensuring that they are able to graduate with a bachelor's degree within four years. This would involve the first two years at LCCC and the final two years at UW. In order for this to happen, we had to streamline our programs by reducing our requirements from 72 hours down to 64 hours. In addition, we needed to include the new campus requirement of adding COLS 1000. These changes have been made to better serve our students and to facilitate their successful transfer in a timely manner. The data used for these changes involved the length of time required for many of our students to graduate from LCCC and the number of hours they were taking while at LCCC.

Objective 3: Our commitment to our students' successful transfer is evidenced by the data we receive from UW at the annual Articulation Conference. Each year they provide us with numbers indicating how our students performed in their first year at UW after transfer. In Fall 2015, we learned that LCCC transfers outperformed all other students, including native UW students and students from other WY community colleges. For the fall 2014 semester, LCCC transfer students in the College of business had a UW first semester average GPA of 3.11 – this is higher than all Wyoming Transfers, out-of-state transfers, all transfers, and UW undergrads. This data is evidence of a significant strength of the two programs – the programs prepare our students well for their continued academic work at the University of Wyoming. We expect this number to continue to be strong.

In addition, we receive informal feedback by the faculty in this program staying connected with several former students. We inquire about their studies at UW and ask how we could improve or make changes to better prepare students in the future. We integrate this feedback into our courses, making continuous improvements in the offerings.

IV.A.4 Developing program's annual planning competencies & outcomes BUSINESS & FINANCE/ACCOUNTING

Continuous Improvement of Student Learning

At the beginning of each academic year data is compiled from the common course assessment of MGT 2100 and IMGT 2400. Full time departmental faculty will review the data and develop a Findings and Summary Report. That report will be the basis for the following years Research Findings & Summary of

Program Learning portion of the annual assessment plan. The full time departmental faculty will use the Findings and Summary Report to develop a Program Changes and Improvements Report, also to be used in the following year's annual assessment plan. Program changes and improvements could include some or all of the following:

1.Process changes would include changes to our process of recruiting and retaining students, as well as scheduling courses. See Action Plan Goal "Completion Campaign"
2.Curriculum changes would include program level changes to course requirements as well as course level changes to teaching strategies. See Action Plan Goals "Course Articulation", "Course Success Rates", "Course Mapping", "Online Course Redesign", and "Program Articulation"
3.Non-curriculum changes would include changes to how we engage students and keep them engaged through non-curricular activities. See Action Plan Goals "Completion Campaign" and "Student Cohort"
4.Program assessment changes would be changes to Program Level Student Learning Competencies. See Action Plan Goal "Course Mapping".
5.Communication and collaboration with student support services. See Action Plan Goals "Completion Campaign" and "Student Cohort"
6.Professional development of program faculty.

Continuous Improvement of Organizational Effectiveness

At the beginning of each academic year data is compiled from the Performance Indicators. Full time departmental faculty will review the data and develop a Findings and Summary Report. That report will be the basis for the following years Evaluation Research Findings & Summary of What Was Learned portion of the annual assessment plan. The full time departmental faculty will use the Findings and Summary Report to develop a Program Changes and Improvements Report, also to be used in the following year's annual assessment plan. Program changes and improvements could include some or all of the following: Process changes would include changes to our process of recruiting and retaining students, as well as scheduling courses. See Action Plan Goal "Completion Campaign"

IV.A.6 Action Plan Goal **HVAC-R**

The completion of the Flex-tech Building will result in unused instructional space in CTEC. The goal is to re-purpose this space to support the HVAC/R and BAS programs. This will include additional classrooms, a data center simulator, and variable air volume system simulator.

V.A.1 Program strengthens its resiliency over time **NATURAL SCIENCES**

The development of the Natural Sciences Program is predicated on diversity and a wealth of expertise within the sciences. By incorporating biology, chemistry, geosciences, physics and zoology into the overarching program of natural sciences, we have created collaboration and interdisciplinary learning experiences for our students as a result.

The Natural Sciences Program has recruited and retained many highly qualified faculty within the last 5 years with nearly three-quarters holding a terminal degree within their discipline. The ability of these individuals to work together, solve problems, create new programs or collaborate on new or unique instructional methods is strong and will continue to become stronger as this program evolves. The manifestation of this program review is an excellent example as each faculty member has worked

individually and collectively on each section to reflect a true "teamwork" approach and comprehension of the plan. Natural science faculty regularly share information about instruction methodologies, student feedback, use of technology, and institutional programs, strategies or initiatives. For example, the science faculty took a proactive approach to refining the Scientific Reasoning institutional Competency rubric after testing it for a few semesters and realizing it did not fully address the way in which we were teaching this competency in our classes. This group of faculty met regularly to re-work the rubric, with approval to do so from Academic Standards, and met with colleagues outside of our program who also use this rubric. In addition, each faculty member is receptive and quick to share specific strengths with others in the program. Some faculty are seasoned online instructors and are more proficient with the use of technology; others have excellent grant writing, procurement and management skills and experience; still, others have strong connections with the business and industry community. All are willing to take time to share these skills and experiences, or offer assistance to others in the group with particular needs.

Sciences faculty meet monthly, under direction of the Department Chair, to keep abreast on the activities and developments within each individual discipline, but also to make sure we are aligning our strategies with the ones set forth by the institution. All science faculty are represented on AT LEAST one committee and collaborate in a variety of ways with each other and across campus (examples referenced in I.A.6).

V.C.1 Strength of resource growth and/or contingency planning for resource shortages ART

The Art Department utilizes previous annual budgets to plan for upcoming years. At present, student studio fees are kept low and consistent across different courses. Should the need arise, there is the possibility of raising those fees or tailoring them to the specific costs associated with each course. Faculty communicate with administration in the form of School of A&H meetings to discuss budgetary considerations and plan for the future. Just this spring, the Art Department has utilized its scholarship budget to award money for summer and fall 2015 courses. The Art Department also has community support for the Esther and John Clay Fine Art Gallery, workshops, and visit artists. As scholarships have been re-allocated in the School of Art and Humanities, the art faculty are developing strategies to make use of new funds to increase enrollment and retain talented students.

APPENDIX F

SUMMARIES OF THE SELF-STUDY SECTIONS FOR 2014-15 CYCLE

Program Performance on Knowledge Distribution

Programs performed better in this section than in organizational effectiveness and planning. Some credit may go to the corresponding emphasis placed on curriculum redesign. Programs took advantage of their newly developed program sequenced degree/certificate plans and uploaded them to this area. In addition, some programs were able to discuss relationships between course learning competencies and program level learning competencies as a result of completing course MCOR forms; they uploaded them to the self-study. Programs also offering general education courses benefitted from recent exercises in meeting Academic Standards requirements for qualifying courses in this category. The recent emphasis on establishing articulation agreements with the University of Wyoming also strengthened program descriptions and documentation in this self-study section; however, descriptions of program engagement with high schools was less developed.

Most programs struggled with describing how their curriculum systematically generated added learning rigor and complexity as students progressed through the program. Programs often identified their stakeholders but rarely provided evidence of stakeholder feedback that directly contributed to changes and improvements to the curriculum or instruction over time. With the exception of Health Science programs, little evidence of learning research (program surveys, graduate exit surveys, student course surveys, rubric results, end-of-program exam results or others) was provided.

Program Performance on Organizational Effectiveness

Previous program reviews did not offer a systematic evaluation of programs' efficiency outcomes. This program review process revealed that most programs lacked historical experience with developing measures or valued indicators that would reveal how efficiently they operated. Most programs did not include time-trend data to demonstrate growing or diminishing efficiency over time. For example, programs like Automotive Technology or Welding purchase significant amounts of product but offer little analysis of well their buying processes were working to reduce or optimize spending. Few programs annually analyzed their student fees to ensure they were set at appropriate levels to match expenditures. As best practices emerge in this section and other low-performing sections, programs will begin to share learning on these activities.

Programs also performed poorly on how they evaluate the quality of resources. Only one program (Medical Diagnostic Sonography) regularly used a survey of resources to learn from students about the adequacy of resources: personnel, physical (space, equipment, ventilation, lighting), learning (tutors, computer labs), and clinical.

Program Performance on Planning: Action Plan Goal Activity

Overall, programs developed 21 action plan goals for an average of 2.1 per program. One of the Board's expectations of the institution's program review process is that it encourage the development of actionable and appropriate plans for program improvement. Some programs have developed only one action plan goal, which does not match expectations. The low planning production will be addressed with the Academic Standards Committee assignment of follow-up reports, which will emphasize the

development of additional action plan goals as the means to strengthen underdeveloped performance areas. Over the winter months, programs have Aquila access to continue adding more action plan goals to their self-studies. In addition, assumed practices for 2015-2016 have been adjusted upward to expectations for a minimum of three action plan goals per program.

The relatively low planning activity is likely a result of the long period of institutional inactivity in meaningful program-level action planning, especially as a result of program review. There is little evidence showing that a systematic infrastructure for developing planning with regular peer review scrutinizing the quality of planning and the attainment of goals was established. The year off from program review (2013-2014) at LCCC added to institutional weakness in planning capacity.

As a result, programs' weakest performance in this first cycle of program review occurred in the planning section. Programs generally did not link their planning with stakeholder needs. Rarely did they discuss the integration of their planning or relate it to their school's planning or with the College's strategic planning. Few references appeared in the self-studies about how well action plan goals were shared with Deans, Chairs, and advisory boards, albeit more mention was made of advisory boards. In the improvement section on planning, few programs recognized their own new planning efforts, such as their multiple goals appearing in annual assessment planning and their newly developed action plan goals, as improvements in planning capacity. Nor did programs discuss their new assessment planning and action goals in the final sections on future capacity to succeed. Reviewers frequently reminded programs to mention their new planning efforts in the self-study sections, and this occasionally resulted in program acknowledgement when developing their responses to review comments. This failure to recognize their own recent experience in planning indicates that this activity may remain an abstract exercise until deans or chairs regularly require annual or regular reporting on planning progress. Already, the college requires annual peer review of assessment planning, but the monitoring of program follow up is still new in its development. This activity would support the HLC accreditation criteria that relate to the strength of institutional planning and the presentation of meaningful evidence showing how well an institution achieves its goals (5.C. The institution engages in systematic and integrated planning).

Capacity for Future Success

Many programs did surprisingly well in this section. Their discussions on resiliency and resource growth indicated deep reflection on the part of program leaders and demonstrated a confident resourcefulness. Program discussions on change management were less convincing as the institution's capacity to plan and self-evaluate systematically is still emerging.