

Program Review Best Practices Locator, 2016-2017

(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

[I.A.1 Mission and vision](#)

BUSINESS & FINANCE/
ACCOUNTING
HISTORY

[I.A.1 Mission and vision](#)

2. Values of program/unit faculty

[I.A.2 Program values](#)

BUSINESS & FINANCE/
ACCOUNTING
MUSIC
NATURAL SCIENCES

[I.A.2 Program values](#)

[I.A.2 Program values](#)

3. Program objectives, including program level student learning competencies

[I.A.3 Program objectives, including learning competencies](#)

ART
BUSINESS & FINANCE/
ACCOUNTING
NATURAL SCIENCES

[I.A.3 Program objectives, including learning competencies](#)

[I.A.3 Program objectives, including learning competencies](#)

4. Engagement of LCCC strategic planning strategies

[I.A.4 Engagement of LCCC strategic planning strategies](#)

HISTORY
NATURAL SCIENCES

[I.A.4 Engagement of LCCC strategic planning strategies](#)

5. Broad summary of program/unit work

[I.A.5 Broad summary of program work](#)

ART
HISTORY
NATURAL SCIENCES
NURSING

[I.A.5. Broad summary of program work](#)

[I.A.5. Broad summary of program work](#)

[I.A.5. Broad summary of program work](#)

6. Significant program achievements over the review cycle

[I.A.6 Significant program achievements over the review cycle](#)

DIAGNOSTIC
SONOGRAPHY
HISTORY
NATURAL SCIENCES

[I.A.6 Significant program achievements over the review cycle](#)

[I.A.6 Significant program achievements over the review cycle](#)

7. Developing Value in Programming

[I.A.7 Developing value in programming](#)

HISTORY
NATURAL SCIENCES
NURSING

[I.A.7 Developing value in programming](#)

[I.A.7 Developing value in programming](#)

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

[I.A.8 Presenting Data Presentation: Program Review KPIs](#)

BUSINESS & FINANCE/
ACCOUNTING

II. Knowledge Distribution

A. Design

1. Process to design the curriculum

[II.A.1 Process to design the curriculum](#)

PARALEGAL
DIAGNOSTIC
SONOGRAPHY

[II.A.1 Process to design the curriculum](#)

- 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
NURSING
PARALEGAL

[II.A.1.d General Education](#)

[II.A.1.d General Education](#)

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
NURSING

[II.A.4 Process to ensure academic integrity](#)

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**

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 outcomes as well 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 seamless 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 opportunity 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 fulfill 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/III, 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 its 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 nursesand 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 20.1 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 be 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 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 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):
 - o Life in the Universe (ASTR 1490) 3 credits – Brian Uzpen
 - o Scientific Research I & II (BIOL 1390 & BIOL 2390) 4 credits – Ami Wangeline & Zachary Roehrs
 - o Cooperative Work Experience (CHEM 1480) 1 credit – Qing Du
 - o Introduction to Geospatial Technology (GEOG 1220) 3 credit – Trent Morrell
 - o Fundamentals of the Physical Universe (PHYS 1090) 4 credits – Brian Uzpen
 - o Advanced Concepts in Physiology (ZOO ?) – Michele Albert working on this (MCOR, etc.) to be offered in Fall 2016.
 - o 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.
 - o Spring 2012 – 11 participants: 3 faculty, 8 LCCC students; identified 26 species.
 - o Fall 2013 – 32 participants: 3 faculty, 29 LCCC students; identified 56 species.
 - o 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.

- o 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:
 - o Science is Everywhere! Ami Wangeline
 - o Beyond Dr. Doolittle. Michele Albert and Meredith Roehrs
 - o Chemistry is Fun! Qing Du

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

- o Faculty of the Year Award, Wyoming Association of Community College Trustees (Nominee): Ami Wangeline 2013.
- o Friend of Sage Trio, Laramie County Community College: Zachary Roehrs 2014.
- o Golden Apple Grant Award, Laramie County Community College Foundation: Ami Wangeline 2012
- o Honorary FFA Degree, Wyoming State FFA Association: Trent Morrell 2013.
- o Partner in Conservation Award, Laramie County Conservation District: Zachary Roehrs 2015.
- o 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):

- o 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.
- o 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.
- o 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.
- o Wangeline, AL, Roehrs, ZP. 2015–2019. Undergraduate pipeline in science through research experience in ecology, molecular biology and genetics of selenophilic filamentous fungi. Wyoming INBRE 3, Community College Partner. Extramural funds: \$200,000, Students involved: 3 LCCC to date.
- o 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.
- o Wangeline, AL. 2014. Undergraduate pipeline in science through research experience in ecology, molecular biology and genetics of selenophilic filamentous fungi. Wyoming INBRE Bridge Funding, Community College Partner. Extramural funds: \$40,000, Students involved: 15 LCCC.
- o 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):

- o 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.
- o 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.
- o 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.
- o 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.
- o 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.
- o 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.
- o 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.

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 representative 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. Additionally 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		3		
	MATH 1400: College Algebra		3		
	ZOO 2015 Human Anatomy		4		
	COLS 1000—Introduction to College Success		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				

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,
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 SCIENCES (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-Evolution: 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 employ 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 geospatial 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://igettdelmar.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 adequately 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 faculty 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 of 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.