ACCREDITATION EVIDENCE

Title: Business Information Systems (BIS) Program Review

Evidence Type: Corroborating

Date: 2021-2022

WAN: 22-0454

Classification: Resource

PII: No **Redacted:** No

Response CERTIFICATION

Name of Institution: Western Wyoming Community College

Date of Submission: 2021-2022

Part 1. SIGNATURES ATTESTING TO RESPONSE

By signing below, we attest to the following:

1. That Western Wyoming Community College has conducted an honest assessment of Response and has provided complete and accurate disclosure of timely information regarding Response with the Core Requirements, Comprehensive Standards, and Federal Requirements of the Commission on Colleges.
2. That Western Wyoming Community College has attached a complete and accurate listing of all programs offered by the institution, the locations where they are offered, and the means by which they are offered as indicated on the updated "Institutional Summary Form Prepared for Commission Reviews," and that the comprehensive assessment of Response reported on the Response Certification includes the review of all such programs.
3. That Western Wyoming Community College has provided a complete and accurate listing of all substantive changes that have been reported and approved by the Commission since the institution's last reaffirmation as well as the date of Commission approval.

Accreditation Liaison

Name of Accreditation Liaison:

Signature: _____

Date:

Chief Executive Officer

Name of Chief Executive Officer:

Signature: _____

Date:

Business Information Systems
Academic Program Review

Name of Institution: Western Wyoming Community College

Year: 2021-2022

1 Program Purpose

1 Program Activity

Describe specific education goals, objectives, and activities of the program. Provide a clear and organized description of three specific education goals, objectives, and activities of the program.

Response

[Business Information Systems] The Business Information Systems program provides students with a strong foundation in cross-functional business processes and the application of information systems to support them. Students will gain a competitive advantage in today's rapidly changing workplace environment. Information Systems program courses offer instruction in software applications, communications, customer service, decision making, and procedures, all of which provide students with the skills they need for everyday running of a business. Program outcomes include:

1. Gain comprehensive computer application skills
2. Obtain information management skills
3. Develop soft skills for the workplace
4. Enhance verbal and written communication
5. Explore emerging technologies used in the workplace

For program outcome 1 above, students will demonstrate comprehensive computer application skills in word processing, spreadsheets, and presentations in addition to general computing concepts.

For program outcome 2 above, students will organize, retrieve, and manage information and records, which may include, paper files, electronic files, and financial information, and database records.

For program outcome 3 above, students will demonstrate soft skills in the professional work environment including: privacy, customer service, and ethical behavior.

For program outcome 4 above, students will demonstrate verbal and written communication skills in an office environment and use accurate and up-to-date terminology. For program outcome 5 above, students will explore emerging technologies used in an office environment.

2 General Education and Other Disciplines

Explain how the program serves the general education program.Provide a clear and organized explanation of how the program serves the general education program.

Response

This program contains courses from the general education list and the newly implemented interstate passport. Specifically, Interpersonal Communications, English Composition, and Problem Solving are included in this program. The program itself is labeled as A.A.S. with many skills courses built in. Graduates are prepared to enter the workforce rather than transfer to a 4-year college. With the addition of the B.A.S. at Western, students graduating with an A.A.S. in Information Systems are now able to continue at Western and seek a Bachelor of Applied Science degree. Western graduates with an A.A.S. degree are required to take a computer class (COSC 1200) that is taught out of this program. Courses from this program that are part of other programs or certificates at Western include:

CMAP 1765 Spreadsheet Applications	IMGT 2400 Information Management	CMAP 1200 Computer Information Systems	CMAP 1530 Excel Basics
Business A.S.	Accounting Certificate	History A.S.	Business A.S.
Accounting Certificate	Business A.S.	Automotive Technology A.A.S.	Exercise Science A.S.
Business Management A.A.S.	Business Management A.A.S.	Business Management A.A.S.	
Business Industrial Management B.A.S.	Business Industrial Management B.A.S.	CTE Generalist Education A.A.S.	
Business Organizational Management B.A.S.	Business Organizational Management B.A.S.	Diesel Technology A.A.S.	
		Electrical and instrumentation Technology A.A.S.	
		Emergency Medical Services Certificate	
		Emergency Medical Services A.A.S.	
		Industrial Maintenance Technology A.A.S.	
		Plant Operations A.A.S.	
		Supervision and Leadership Certificate	
		Web Site Development Certificate	
		Welding Technology A.A.S.	
		Health Science A.S. Radiology Tech Transfer	
		Maintenance Mechanic Certificate for Industry	
		Mining Maintenance Technology A.A.S.	
		Electrical Mine Maintenance Certificate	
Communication A.A.	Any CMAP for Elective		

A Western Experience Courses (Formerly First Year Experience) is a required general education requirement for the Interstate Passport program which begins in fall of 2022. While our

A.A.S.BIS is not a transfer program and does not participate in the Interstate Passport Program, students that do participate in the Interstate Passport program can take one of the CMAP courses that follow to meet this requirement.

- CMAP 1716 Word Basics 1 credit
- CMAP 1530 Excel Basics 1 credit
- CMAP 1886 Microsoft Outlook 1 credit

3 Market Demand

Document market demand and/or state/industry need for careers stemming from the program. Provide and document two sources showing the market and/or state/industry demand for graduates of this program.

Response

National:

According to the Bureau of Labor Statistics website (Employment Projections (bls.gov)), the national median annual wage for 2020 in the category of "computer, all occupations" is $41,950. Many of the specific jobs in this field listed required a bachelor's level degree and fell in the wage category over $80,000. With a specialized certificate or an associate level degree in the Information Systems field, we feel a good gauge for average expected annual salary is met with the all occupations category and the $41,950.

STATEWIDE:

According to the Bureau of Labor Statistics Employment and Wage Estimates for Wyoming (Wyoming - May 2020 OEWS State Occupational Employment and Wage Estimates (bls.gov)), once again looking at the category of "computer, all occupations" the annual wage mean is $74,790. It does not state that this is specifically for associate degree level or bachelor degree level.

Research notes:

Projected demand in Wyoming and Nation

11-3021 Computer and information systems managers – Computer Systems design and related services – 541500 – Management Scientific and technical consulting services – 541500 Computer and Information Analysis – 15-1210
https://data.bls.gov/projections/nationalMatrix?queryParams=11-3021&ioType=o

15-1299 Computer occupations, all other
https://data.bls.gov/projections/nationalMatrix?queryParams=15-1299&ioType=o

15-1232 Computer user support specialists
https://data.bls.gov/projections/nationalMatrix?queryParams=15-1232&ioType=o

29-2098 Medical dosimetrists, medical records specialists, and health technologists and technicians, all other
https://data.bls.gov/projections/nationalMatrix?queryParams=29-2098&ioType=o

Wyoming: Long term Occupational Projections 2016-2026:
https://doe.state.wy.us/lmi/projections/2018/WY_long_term_projections_2016-2026.pdf

Computer & Mathematics:
http://doe.state.wy.us/lmi/projections/2018/WY_long_term_projections_2016-2026.pdf#page=17

Business & Financial Operations:
https://doe.state.wy.us/lmi/projections/2018/WY_long_term_projections_2016-2026.pdf#page=15

United States	Employment		Percent Change	Job Openings	Median Annual Wage 2020
	Year: 2020	+ 10 years			
Computer Systems Design and related Services	104.2	125.5	20.5		93,730 with bachelors
Computer and Information Systems Managers	104.2	125.5	20.5		151,150 with bachelors
Computer and Information Analysis	192.9	243.2	26.1		93,730
Computer User Support Specialist	152.1	192.4	26.5		
Medical Dosimetrists, Medical records specialists, and Health technologists and technicians, all other	245	266.6	8.8		
Health Technologists and Technicians	819	871.5	6.4		
Wyoming	Employment		Percent Change	Job Openings	
	Year: 2016	+10 years			
Computer and Information Systems Managers	201	217	8	167 TTL 17Annual Bachelor degree	
Computer Systems Analysts	178	194	9	133 TTL 13 Annual Bachelors degree	
Computer User Support Specialists	641	687	7.2	523 TTL 53 Annual. Some college	
Other Healthcare Support Occupations	2292	2715	18.5	3190 TTL 319 Annual	
Medical records & Health Information Technicians	335	384	14.6	261 TTL 26 Annual Post secondary non degree	

Data sources:

· National Data Source: Computer User Support Specialists (SOC Code 15-1151) https://data.bls.gov/projections/occupationProj

· State Data Source: Latest available: 2016 Computer User Support Specialist (SOC Code: 1151) http://doe.state.wy.us/lmi/projections/2018/WY_long_term_projections_2016-2026.pdf#page=17

State and National Wages

https://www.bls.gov/oes/current/oes_wy.htm#15-0000

Example: Computer and Information Systems Managers:
https://www.bls.gov/oes/current/oes113021.htm

Occupational Employment and Wages, May 2020

11-3021 Computer and Information Systems Managers

Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming. Excludes "Computer Occupations" (15-1211 through 15-1299).

National estimates for Computer and Information Systems Managers
Industry profile for Computer and Information Systems Managers
Geographic profile for Computer and Information Systems Managers

National estimates for Computer and Information Systems Managers:

Employment estimate and mean wage estimates for Computer and Information Systems Managers:

Employment (1)	Employment RSE (3)	Mean hourly wage	Mean annual wage (2)	Wage RSE (3)
457,290	0.7 %	$ 77.76	$ 161,730	0.3 %

Percentile wage estimates for Computer and Information Systems Managers:

Percentile	10%	25%	50% (Median)	75%	90%
Hourly Wage	$ 43.48	$ 56.25	$ 72.67	$ 92.05	(5)
Annual Wage (2)	$ 90,430	$ 116,990	$ 151,150	$ 191,470	(5)

Data sources:

· National Data Source: https://www.bls.gov/oes/current/oes_nat.htm

· State Data Source: https://www.bls.gov/oes/current/oes_wy.htm (See downloadable Excel file)

Advisory Council Input

Twice a year, we meet with our local advisory council members to share updates about our program and we get valuable feedback regarding area demand for technical skills.

Please see attached file for additional information regarding student demand.

2 Curriculum

1 Program Parallels

Describe how program content parallels current thinking/trends in the field/trade. Please provide two sources of documentation showing how the program content parallels current thinking/trends in the field/trade. Example: Journal articles, professional publications, national trend data.

Response

While the AAS degree is not designed for transfer to a 4-year college, there are now many opportunities for students with an AAS to continue their education at other institutions who offer a BAS degree. We have worked with Mayville State University and Weber State University with an informal articulation process.

Current Trends: Micro-Credentialing and Digital Skills.

Gaining nationally recognized certifications is a trend in CTE Education at all levels. Employers require such certifications in many cases. The BIS program has been actively working to include certifications. A pilot program was implemented to offer certification for students in Microsoft Word and Excel in the fall of 2021.

The BIS program focuses on teaching students digital skills and our advisory council has time and again confirmed digital skills are needed for local industry. Examples of digital skills and BIS courses that teach the skills are listed as follows:

- computer literacy (CMAP 1200)
- data entry (CMAP all)
- social media (BOTK 1515, BOTK 1525)
- web-based communication and research (CMAP 1200, IMGT 2400, All Courses)
- word processing (CMAP 1200, CMAP 1715, CMAP 1716)
- email and chat (CMAP 1886, CMAP 1200)
- secure information processing (IMGT 2400, CMAP 1200, IMGT 3020)
- digital content creation (all CMAP and BOTK)
- digital design (CMAP all)
- data visualization (CMAP 1765, IMGT 2400)
- digital business analysis (IMGT 2400, IMGT 3020)

“The pandemic catalyzed an already-accelerating rate of digital transformation, where the old ways of doing things — from grocery shopping to work — changed irreversibly. The demand for

digital skills was likewise impacted, as companies shifted from physical headquarters to embracing a digital HQ mentality." (What are digital skills?, 2021)

"Digital skills have never been more critical to business and the workforce, as demonstrated by the universal shift to digital-first interactions like remote work, online commerce, and virtual collaboration." (What are digital skills?, 2021)

Sources:

What are digital skills? (2021, October 22). Retrieved from salesforce.com: https://www.salesforce.com/news/stories/what-are-digital-skills/

Carey, K. L., & Stefaniak, J. E. (2018). An exploration of the utility of digital badging in higher education settings. *Educational Technology, Research and Development, 66*(5), 1211-1229. doi:http://dx.doi.org/10.1007/s11423-018-9602-1

2 Degree Requirements

Approved degree requirements. Insert the approved current degree requirements for the program and/or where program courses are used to fill General Education requirements.

Response

Freshman Year - Fall Semester

COMM 1030 - Interpersonal Communication Credits: 3

BOTK 1640 - Keyboarding Applications I Credits: 3

CMAP 1200 - Computer Information Systems Credits: 3

ENGL 1010 - English Composition I Credits: 3

HMDV 1005 - 1st Year Success Credits: 1

MATH 1000 - Problem Solving Credits: 3

Subtotal: 16

Freshman Year - Fall Semester Notes:

In addition to ENGL 1010, students may be required to also take ENGL 1011 (2 credits) due to placement, adding 2 additional credits to their graduation total.

Incoming students with keyboarding skills may, with the consent of their faculty advisor, substitute more advanced courses (re: BOTK 1640).

Freshman Year - Spring Semester

BOTK 1650 - Keyboarding Applications II Credits: 3

ACCT 1005 - Practical Accounting I Credits: 3

CMAP 1765 - Spreadsheet Applications Credits: 3

Approved Elective Credits: 3

CMAP 2630 - Presentation Graphics Credits: 2

ENGL 2005 - Writing in Technology and the Sciences Credits: 3

Subtotal: 17

Freshman Year - Spring Semester Notes:

Approved elective can be fulfilled with any of the following prefixes: CMAP, BOTK, BADM, MKT, MGT. Courses should be determined by advisor and student.

Sophomore Year - Fall Semester

BOTK 2750 - Records Management Systems Credits: 3

CMAP 1860 - Introduction to Digital Design Technologies Credits: 3

CMAP 1715 - Word Processing Applications Credits: 3

Approved Elective Credits: 3

ACCT 2110 - Quickbooks Accounting Credits: 3

Subtotal: 15

Sophomore Year - Fall Semester Notes:

Elective can be from any department 1000 level or higher.

Program courses used to fill Gen Ed requirements in other areas are listed in 1 Program Purpose.

Sophomore Year - Spring Semester

BOTK 2900 - Office Systems & Procedures Credits: 3

CMAP 1815 - Database Applications Credits: 3

US & Wyoming Constitution Credits: 3

MGT 1000 - Introduction to Supervision Credits: 3

IMGT 2400 - Introduction to Information Management Credits: 3

Approved Physical Activity Course Credits: 1

Subtotal: 16

Sophomore Year - Spring Semester Notes:

Any Physical Activity course may be taken to fulfill this requirement, or HLED 1003.

US & Wyoming Constitution can be fulfilled by HIST 1211, HIST 1221, HIST 1251, or POLS 1000.

Subtotal: 64

Total Credit Hours: 64

Incoming students with keyboarding skills may, with the consent of their faculty advisor, substitute more advanced courses.

3 Faculty

1 Faculty Orientation and Evaluation

Describe the orientation and evaluation processes for faculty, including adjunct faculty and part-time faculty.

Response

The Business Information Systems program utilizes WWCC's orientation and evaluation processes for full-time and part-time faculty. Faculty evaluations are completed yearly by the faculty member and commented on/approved by the school chair. The school chair periodically completed in-class evaluations when needed. Student evaluations are performed as per WWCC's student evaluation process which depends on years of service. Adjunct instructors must have all courses evaluated, new faculty have all courses evaluated during the first three years, and after three years faculty must have a minimum of two courses evaluated each semester.

2 Professional Development

Describe the professional development opportunities available to faculty and the budgetary resources allocated to professional development.

Response

Faculty are given $650 each year to pay for professional development. Examples for which this money is used include conferences, professional certifications, memberships in professional associations, and training to keep up with new technology and trends in the field. Funds can be pooled or encumbered and combined when professional development opportunities are more than the allotted $650. Faculty can also apply to receive super enhanced funds which are combined unused and unencumbered professional development money from the College Senate at the end of each academic year.

Examples of professional development by faculty include Adobe Train the Trainer, Adobe Level 1 Creative Educator, Amazon Web Services (WS) certifications, COMPTIA certifications, Certiport certifications in Microsoft Office. Faculty affiliations include National Business Education Association (NBEA), Wyoming Association for Career and Technical Education (WACTE).

3 Faculty Credentials

Complete the Faculty Credentials table with one row for each faculty member.

Response

Faculty Name	Credential	Teaching Experience	Professional Experience	Rank	Classification	Department
Lisa McClure	M.S. Education	30+	1-5 years	Assistant Professor	Full-time Retired May 2021	Business Information Systems
Leesa Lee	M.S. Education	30+ years	1-5	Associate Professor	Full-Time	Business Information Systems
Jennifer Allen	M.S. E-Business	20+	20+	Associate Professor	Full-Time	Business Information Systems/Computer Science
Kayla Hawley	M.B.A	1-5	6-10	Instructor	Full-Time	Business/Information Systems
Maggie Frericks	M.S. Education	11-15	20+	Instructor	Full-Time Retired May 2018	Business Information Systems
Allyson Cross	M.B.A.	11-15	6-10	Instructor	Part-time	Business Information Systems
Kelley Brown	A.A.S.	1-5	6-10	Adjunct	Part-time	Business Information Systems

Options:
Credential: PhD, EdD, MA
Teaching Experience: 1-5 Years, 6-10 Years, 11-15 Years, 16-20 Years, 20+ Years
Professional Experience: 1-5 Years, 6-10 Years, 11-15 Years, 16-20 Years, 20+ Years
Rank: Instructor, Assistant Professor, Professor
Classification: Full-Time, Adjunct

4 Continuous Improvement

1 Assessment Planning

Describe the program assessment planning methodology, and how program and/or student learning outcomes, assessment measures, and benchmarks are selected. Provide three program learning outcomes with their corresponding measures and benchmarks.

Response

Collaboration is the key to our success in the program. As a group, our program goals were established using information from advisory council members, experience of instructors, current trends, state and national associations for Career and Technical Education. From this came the following program outcomes.

Program outcomes include:

1. Gain comprehensive computer application skills

1. Obtain information management skills
2. Develop soft skills for the workplace
3. Enhance verbal and written communication
4. Explore emerging technologies used in the workplace

Next, the faculty determined how to assess the outcomes, setting benchmarks for student assessments. Institutional research staff members from the college were instrumental in helping to determine valid measures for our outcomes.

For program outcome 1, knowing how employers are expecting employees to utilize software applications, it is important that our students demonstrate comprehensive computer application skills in word processing, spreadsheets, and presentations in addition to having general computing concept knowledge.

Measure 1: final exam scores on CMAP 1200 applications (Word, Excel, Access, PowerPoint).

Measure 2: scores on 4 application assessments in BOTK 2900.

For program outcome 2 above, students will organize, retrieve, and manage information and records, which may include, paper files, electronic files, and financial information, and database records.

Measure 1: records accurately filed on assignment in BOTK 2900.

Measure 2: worksheet assessment on financial analysis in BOTK 2810. *Note: This class was moved out of the department (2020-2021) as part of the Common Course*

numbering project by the Wyoming Community College Commission. A new measure will be determined.

For program outcome 3 above, students will demonstrate soft skills in the professional work environment including: privacy, customer service, and ethical behavior.

Measure 1: Test over customer service concepts BOTK 2900

Measure 2: Test over ethics concepts BOTK 2900

Thoughts moving forward: Students following a schedule and completing work on time is a focus in every course in the program. Perhaps we could measure the % of on time assignments?

For program outcome 4 above, students will demonstrate verbal and written communication skills in an office environment and use accurate and up-to-date terminology.

Measure 1: BOTK 1555 (Basic Office Skills) Average on Gregg Reference Manual lesson exams.

For program outcome 5 above, students will explore emerging technologies used in an office environment.

Measure 1: Research paper (BOTK 2900) on tablet purchase for business and personal.

Thoughts moving forward: A new measure could come from Internet of Things in IMGT 2400 or CMAP 1200. Students in CMAP 1200 have activities like putting together a Bluetooth speaker, Makey Makey, Raspberry pi, Video using Adobe Spark and iPads. Students complete a reflection of the project. Faculty need to develop a rubric that will be used for any project that comes up.

2 Assessment Reporting

Describe how program assessment data is collected and reported; include program-level collection procedures and findings. Provide between two and five years of assessment findings.

Response

Individuals who teach the course from which the assessment data is collected, retrieve the data and present it to the program facilitator to be entered into SPOL.

Assessment Findings Business Information Systems

	SLO 1		SLO 2		SLO 3		SLO 4	SLO 5
	1 BM 70%	2 BM 70%	1 BM 70%	2 BM 70%	1 BM 70%	2 BM 70%	1 75%	1 70%
2017-2018	76	--	60	90	93	98	70	77
2018-2019	100	--	15.38	68.42	75	75	--	37.5
2019-2020	66.67	40	50	78.95	54.55	54.55	--	63.64
2020-2021	65.63	66.67	71.43	--	66.67	66.67	--	66.67
2021-2022	*	--	--	--	--	--	--	--

*this data is not yet available (coming end of Spring 2022)
--this data is no longer being collected, the courses have been cancelled or deactivated

3 Use of Assessment Results

Describe how the program assessment results are used. Cite specific assessment findings and evidence of how the findings are used. Provide two to five specific examples demonstrating how assessment results have ben used to make programmatic decisions.

Response

BIS uses the assessment results to study the measure instrument from which the data is collected. Does the measure need to be made more comprehensible? Do the results provide information to better teach the concepts that affect the learning objective outcomes? Also, we have been able to tweak our measurements. Course offerings have changed and been deactivated and assessments have moved to different courses. Reflection on the value of the assessments and how we teach is how these results are used.

How findings are used: To make changes in our program, to make assignments better, look at different courses to host the measures.

Examples demonstrating how assessment results have been used to make programmatic decisions:

1) For a variety of reasons, changes have been made over the course of 5 years that were not related to assessment results. Looking back at the findings, changes are necessary, however, it has hindered our ability to see trends that would help us make better data informed decisions.

2) Looking at the data above, SLO 1 is the best performer. This outcome is the mainstay of our program and therefore should report high numbers if we are doing a good job of teaching applications.

3) 2019-2020 findings seem to reflect the chaos we felt as a result of the disruption caused by the pandemic.

4) As shown in the table above, there are several empty slots. Much of the data came from a BOTK 2900 Office Systems and Procedures, which was our capstone course. This course was offered and cancelled in Spring 2022 due to lack of enrollment and will be eliminated as we move toward a more technical skill set for our graduates. This makes it obvious that we need to revisit all of our goals, program layouts, data collection processes…a complete overhaul.

4 Assessment Reflection

Provide an overall assessment summary, and three ideas about how future assessments will be improved.

Response

Provide an overall assessment summary, and three ideas about how future assessments will be improved.

1) Data is entered into SPOL at the end of the spring semester at a time when we are pushing to finish and wrap up the semester. It seems like there is little time to reflect. We end up changing on the fly in the next academic year.

2) Many changes to the BIS program have been dictated from administration in order to keep us relevant and current. This has led to deeper examination our courses and content not the data.

3) Moving forward, we will maintain this state of perpetual change. Consequently, all of these outcomes will be redefined and where the assessment data is pulled from will be redetermined. The overall focus of our program is changing to a more digital and technical outlook, more IT based, and no longer office administrative focused. Current courses are being deactivated and many new courses are being created.

4) Plans to create new certificates and change the way requirements to complete the AAS degree will be modified.

5 Evidence

1 Data to Support Decision Making

What data does the program use to support decision-making? Give examples of the data used and cite specific decisions where applicable. Provide two to three examples of data-informed program decisions, each example should include specific relevant data and an explanation of how the data was used to inform decision-making.

Response

Twice a year the Business Information Systems program hosts Advisory Council meetings, not only to be eligible for use of Perkins funds but also to hear from community stakeholders and constituents. Advisory Council members are from businesses in the community who employ graduates and students who take courses, human resources and management representatives from local industry, esteemed faculty and colleagues, representatives from area school districts, and past and present students. Two meetings are held each academic year. These meetings allow faculty to share about course content and program changes and to ask questions and get feedback on what changes are occurring in local business and industry to be sure course offerings and content are relevant and meeting the needs of the community.

Data informed decision 1: Gaining nationally recognized certifications is a trend in CTE Education at all levels. The BIS program has been actively working to include certifications. A pilot program was implemented to offer certification for students in Microsoft Word and Excel in the fall of 2021.

Data informed decision 2: During fall of 2020 advisory meeting. We proposed the idea of teaching in a fast track format similar to the Business program. During this meeting, students in attendance (past and current) expressed support of this idea so they would be able to focus on one application program at a time. Since many of our courses support the business program, it makes sense to offer classes in the condensed format. The enrollment in the fast-track courses have been stable. CMAP 1530 Excel Basics, IMGT 2400 Intro to Information Management, CMAP 1200 Computer Information Systems, CMAP 1765 Spreadsheet Applications. One-credit classes lend themselves to the fast track format. (Several are offered through BIS.) Data from course evaluations is forthcoming.

2 Data to Support Program Engagement

How does the program actively engage other programs for feedback? Provide examples of active engagement and specific feedback received. Provide two to three specific examples citing program engagement with other programs, each example should include feedback from the other programs.

Response

How does the program actively engage other programs for feedback? Provide examples of active engagement and specific feedback received.

Provide two to three specific examples citing program engagement with other programs, each example should include feedback from the other programs.

Two members of the BIS faculty group are considered only half-time in the BIS area. One faculty member spends the other half as part of the Computer Science Department and the other is half-time in the Business Department. This creates the constant connection between the programs and the people in these positions act as a conduit to provide feedback and collaboration between the two areas.

Additionally, BIS faculty attend advisory councils held for the Business Department and Computer Science Department and faculty from those areas attend the BIS Advisory Council meetings as we all need to be informed of what the other is doing. Also, oftentimes one Advisory Council meeting is held for both BIS and Computer Science as their constituency is very similar. Feedback from all of these meetings benefits both the Business Information Systems Program.

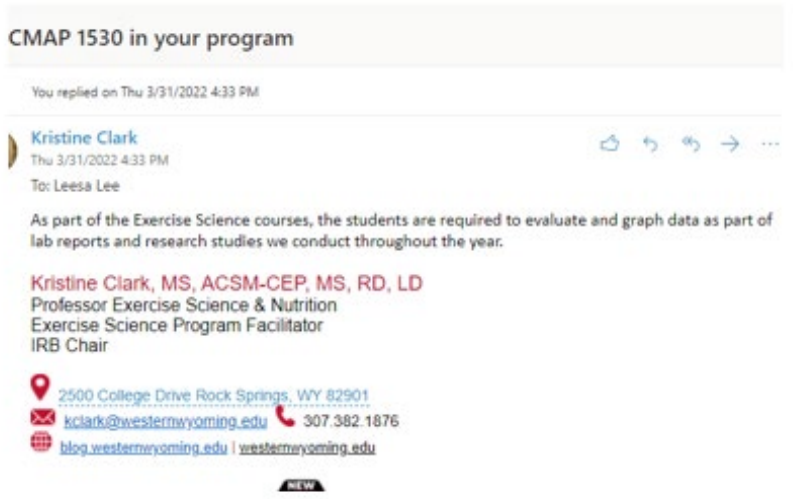
Annually, BIS faculty attend Perkins/CTE meetings at local area high schools. This fosters a relationship that allows for discussions about concurrent and dual opportunities as well as Western gets a glimpse of the programs and courses high school students are completing before they potentially attend college.

The Information Systems area works directly with other departments in the School of Business and Computer Technology departments as courses from those areas are requirements and recommended elective options for the AAS in Business Information Systems degree as well as some of the Information Systems certificate programs. For example, the AAS in Business Information Systems requires ACCT 1005 Practical Accounting (previously BOTK 2810 Accounting Procedures) and the BIS Digital Design Technologies Certificate currently requires COSC 1350 Web Development I and COSC 2350 Web Development II. It is obvious looking at missing data that BIS will need to work hand-in-hand to collect data from these outside courses for program review.

Not only does BIS work with programs in the School of Business and Computer Technology, it supports other schools at Western Wyoming Community College.

An example is CMAP 1530 Excel Basics. This course was developed specifically for the Exercise Science program as they needed a short course in Excel to gain knowledge of chart building and data analysis.

Below is communication from Kristine Clark regarding this relationship.



CMAP 1530 in your program

You replied on Thu 3/31/2022 4:33 PM

Kristine Clark
Thu 3/31/2022 4:33 PM

To: Leesa Lee

As part of the Exercise Science courses, the students are required to evaluate and graph data as part of lab reports and research studies we conduct throughout the year.

Kristine Clark, MS, ACSM-CEP, MS, RD, LD
Professor Exercise Science & Nutrition
Exercise Science Program Facilitator
IRB Chair

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NEW

The School of Manufacturing and Industry has included CMAP 1200 Computer Information Systems in each of their AAS programs. Their advisory council members and industry partners have been adamant that future employees have computer skills. When classes are scheduled each semester, they are placed in time slots that match up with the Manufacturing and Industry course schedules. This relationship has been fostered for many years successfully.

6 Planning for the Future

1 Program Mission Statement

A Mission Statement should briefly describe the program. The program mission statement should closely align with the college mission statement.

Response

The Information Systems program provides students with a strong foundation in cross-functional business processes and the application of information systems to support them.

2 Program Vision Statement

A Vision Statement should briefly describe program aspirations for the future.

Response

Students will gain a competitive advantage in today's rapidly changing workplace environment. Information Systems program courses offer instruction in software applications, communications, customer service, decision making, and procedures, all of which provide students with the skills they need for everyday running of a business.

3 Planning Philosophy

Describe the philosophy that guides future program planning. Provide descriptions of decision points and evidence used in the program planning process.

Response

Planning philosophy used to guide decisions for the BIS department fall into these categories:

· Discussions with Advisory members

· Recommendations from National Business Education Association (National trends)

· Adapting to the rapid digital revolution

· Incorporate technology into offered competencies

· Teach fundamental digital skills (Entry level digital skills are considered critical to secure a career and succeed as a college student)

· Study local market needs

4 Demonstration of Planning

Provide specific examples of how your program planning philosophy informs the development/implementation of a plan. Provide two to three specific examples of how the program philosophy informs the development and implementation of program plans.

Response

The following courses were created or revived during 2021-2022 academic year in preparation for updating current certificates and the creation of new certificates in the fall of 2022.
Classes Approved or Reactivated, Course Descriptions

- CIS 2000 IT Fundamentals (new)
  - § This course is designed to prepare the student to take the CompTIA IT Fundamentals certification exam which includes IT literacy, environmental and safety concepts, operating systems, software, hardware, databases, networking, security, software development, alternative technologies and computational thinking. Students will obtain skills and qualities to analyze and solve problems in the IT industry.
- INET 1580 Web Page Authoring I (new)
  - § This course introduces the fundamental concept and practices of creating web content. Students learn basic HTML and CSS to design their own simple web pages for personal or business use.
- INET 1585 Web Page Authoring II (new)
  - § Students will learn more advanced uses of HTML and CSS including the use of tables, forms, integrating audio and video, designing for mobile devices, and website publishing and promotion. Students will be also be introduced to Javascript and Bootstrap.
- CMAP 1850 Desktop Publishing: Microsoft Publisher – revived!
  - § Desktop publishing has become an important tool for communicating in today's office. Upon completion of this course, the student will accurately use page layout software, such as Publisher, to apply desktop publishing concepts in various personal and business applications. Students will produce professional-looking publications such as newsletters, brochures, and flyers.
- CMAP xxxx Digital Video Production (Adobe Premiere, still waiting on a number) (new)
  - § Throughout this course, students will learn basic terminology related to digital video production and gain practical experience with the industry-standard professional digital video production program(s). Through hands-on learning, students will experience the various general tools and uses of digital video creation and become educated designers in the field of digital video production. An awareness of the ethical responsibilities while creating digital videos will be developed as real-world scenarios for clients will be investigated and solved. Students will learn and identify various file formats

for various purposes as well as the presentation of completed digital video projects through various media.

- IMGT 2450 Introduction to Business Analytics (new)
  - § In the course students are introduced to business analytics, decision making based on the information as well as statistical inference. Students practice the application of data analysis, and decision-making utilizing spreadsheet application software. Students gain a fundamental understanding of the general steps applied when using business analytics to make decisions.
- IMGT 2500 Introduction to Enterprise Resource Planning (new)
  - § In this course students are introduced to Enterprise Resource Planning and different software options utilized. Students gain a fundamental understanding of what applications ERP systems use and how they benefit an organization.
- MEDC 1580 ICD 10 and CPT Coding (new)
  - § In this course students are introduced to basic coding guidelines using the International Classification of Diseases (ICD-10), and Current Procedural Terminology (CPT) Coding systems. Students practice the application of diagnosis and procedure codes, while focusing on the information found in the medical record. Students gain a fundamental understanding of the general steps applied in coding using ethical coding standards.
- MEDC 1715 Introduction to Medical Insurance (new)
  - § This course gives students a basic overview of health insurance concepts, how to fill out an insurance form and revenue management. Students will also be exposed to the differences between commercial and non-commercial insurance organizations.
- IMGT 1600 Introduction to Health Information Management (new)
  - § Students strengthen knowledge of organizational structures, regulatory standards the healthcare system, technology and management. Students are introduced to healthcare delivery systems, the structure of healthcare data, and how to manage those data sets.
- BADM 2615 Introduction to Medical Law and Ethics -- this will be housed in Business (new)
  - § This course encompasses issues faced in the healthcare industry including legal responsibility, ethical issues and bioethics. Students are introduced to legal terminology, medical law, workplace and ethical issues central to health information management

Courses and Descriptions for proposed Help Desk Certification

The following is documentation of the planning process for a Help Desk Certificate. The bulleted item are comments about the course descriptions from professionals at a local soda ash mine.

Computer Information Systems

In this introductory computer course, students will learn the functions of the computer and common software packages widely used in today's world. Students will participate in discussions and will complete activities using word processing, spreadsheet, database, and presentation software. Topics such as the following will be included: hardware, software, operating systems, communications, networks, information systems, database management, buying computers, and workplace issues. (Keyboarding skills strongly recommended.)

· *"Absolutely necessary to have Keyboarding skills"*

· *"Knowledge of data base retrieval and use of retrieved data (Access Program or similar applications)"*

Introduction to Enterprise Resource Planning (new)

In this course students are introduced to Enterprise Resource Planning and different software options utilized. Students gain a fundamental understanding of what applications ERP systems use and how they benefit an organization.

- *"Oracle.com, Microsoft Azure and SAP s/4hana should be reviewed to teach ERP planning. Programs provide excellent data that could be used. I believe that SAP also has a training module."*
- *"Barcoding"*

Computer Science Principles and Practices (new)

This course introduces the use of computers for algorithmic problem solving. Studies scope, major contributions, tools and current status of computer science; presentation of computer science principles; use of software packages and evaluation of their effectiveness; and elementary programming.

· *"I have very limited knowledge of this."*

IT Fundamentals (new)

This course is designed to prepare the student to take the CompTIA IT Fundamentals certification exam which includes IT literacy, environmental and safety concepts, operating systems, software, hardware, databases, networking, security, software development, alternative technologies and computational thinking. Students will obtain skills and qualities to analyze and solve problems in the IT industry.

· *"I have very limited knowledge of this."*

PC Repair

This course is intended to prepare students for a national certification exam to meet entry-level requirements for employment in areas closely related to the PC support industry. Examples include: small computer repair (A+ Certification), networking small computers (Network+ Certification), integrating the small computer with the internet (I-net Certification), and similar courses.

· *"Out of my league. I know nothing about computer repair. I know that all soda plants use desktop, laptop, tablets, cell phones and main line computers for data collection and retrieval."*

Principles of Cyber Security (new)

This is an introductory course in Cybersecurity focusing on an examination of the fundamental principles that lay the foundation of the discipline. The course will examine how these principles are interrelated and how they are typically employed to secure computer systems and networks. The course will also examine how failures in the fundamental security design principles can lead to system vulnerabilities that can be exploited. The course will include an examination of topics such as cryptography, authentication, authorization, firewalls, intrusion detection/protection, computer network attack and defense, incident response, forensics, critical infrastructure protection, perception management, operational security and the legal issues governing cyber law ad cyber operations.

· *"This principle is always setup by corporate. Depends very much on the software being used."*

Intro to Networks (new)

This class focuses solely on networking fundamentals. Students will gain an understanding of networking models and standard communication protocols, networking components, industry standards, networking topologies and designs, and professional practices. Hands-on project learning experiences and capstone projects will give students the skills and qualities to analyze and solve network problems.

· *Out of my league.*

"We are end users. We understand what is required to input data to a computer system and how to use historical data to make very day decisions. We understand what is required of an end user. There may be some consideration made in the future on training for end users. The data input by end users is the bases of all computer system. Poor input data results in poor historical records."

7 Strengths and Limitations

1 Strengths

Clearly describe three of the program's strengths.

Response

Students first is always foremost in the minds of faculty and staff.

The members of the BIS program are adaptable. Faculty frequently retrain as new versions of software release and new technologies are available. A weekly department meeting helps keep everyone informed about current courses and college goings- on. The members of the BIS program collaborate in decisions (especially) change. When situations arise, the BIS staff have each other's back. It is common to cover class for a faculty member who is ill, attending a conference, or tending to personal matters.

BIS Lab Staff – this group of people is amazing. They keep the equipment working properly, clean, and ready for the next wave of students. They are willing to cross-train and learn new software and technology that serves our students and program.

Previously the BIS Lab staff included one full-time employee and 4 part-time employees. During the big layoff in 2021, the full-time position was eliminated so currently the staff is made up of 4 part-time employees who have stepped up to cover the duties and responsibilities of the full-time position no longer there.

2 Limitations

Clearly describe three of the program's limitations.

Response

Dealing with Apples.

Learning new skills while still teaching the old skills.

Summer is often used for PD and updating skills without additional compensation.

3 Aspirational Program

Identify a similar program at another institution as an aspirational point. Describe why this program was selected and why it is considered an aspirational reference point.

Response

As the BIS Program is making the turn away from offering skills for the administrative assistant and more towards that of digital skills, information technology, and information systems, we find ourselves looking to Salt Lake Community College (SLCC) for inspiration. Much of what they are doing with their Computer Science and Information Systems program are what we are wanting to do so they have placed themselves as our main aspirational reference.

8 Resource Adequacy

1 Human Resources

Identify and evaluate the adequacy, availability, and sustainability of program human resources.

Response

Since the beginning of this program review season, we have undergone the retirement of 2 faculty members. One was not replaced, the teaching load was absorbed into the remaining faculty: 2 full-time, one part-time, and two adjuncts. With the 2021 transition of the adjunct to a full-time position, we are able to cover the curriculum. Planning ahead for the new courses and programs, there is concern about our ability to "do it all" but we hope we can strategically schedule the courses to make it work.

A continued challenge is how to fit in re-training and professional development so certifications can be attained in the new areas.

The staffing for the BIS lab has undergone change. At the time of our last program review, the lab was staffed with two full-time and three part-time lab assistants.

One full-time position was not replaced when the position became vacant. The other full-time position was subsequently eliminated with budget cuts in 2020. During the current academic year, the lab staff consists of:

1 part-time benefitted employee (Lead Lab Assistant)

3 part-time employees

The team of employees are quite exceptional; they have made things work smoothly. Partly due to the fact that COVID has depleted the number of students that utilize the lab. We are just now (Spring 2022) starting to see usage pick up.

2 Information Technology Resources

Identify and evaluate the adequacy, availability, and sustainability of program information technology resources.

Response

The BIS computer lab is still looking great after the upgrade in 2013. The lab looks modern and the students like the arrangement. In the past, computers had a 5-year life and were replaced on a schedule. For the last several years…we have done without new machines in the lab as we battled a budget crisis. The Information Technology team has been able to update/upgrade/fix our current set of machines. There are two to three printers on each side of the lab. They have been maintained well. The color printer is in the queue to be replaced, however, printers are in short supply and it may take several months to have a new color printer installed. The budget crises of the last two years put a halt to our normal system of upgrading. BIS has been informed of an expenditure that will update our oldest machines and a future rotation system will be a priority so we can ensure our students have access to the latest machines and equipment. The addition of a virtual server has been critical to allow our students (online and otherwise) access to appropriate software to complete their courses. This year, with the addition of HIVE IO, students are able to access software virtually from any machine, (Chromebooks and tablets too). The virtual server will be repurposed for SAP (for the Enterprise Resource Program slated to be taught in an upcoming semester). In addition, students now have the ability to check out laptops running Windows 10 and Microsoft Office 365.

3 Physical Resources

Identify and evaluate the adequacy, availability, and sustainability of program physical resources.

Response

Students have access to a very well appointed, updated, and friendly computer lab on campus. This lab is located on the main floor in Rooms 1430 and 1448. There are 80+ computers total for student use. The south-side lab, Room 1448, has 36 computers available to students Monday through Thursday 8am to 8pm and Fridays 8am to 5pm. The north-side lab, Room 1430, is reservable for classroom use. There are 48 computers total available on this side, a projector, and white boards available for instruction. Recently, a camera system (Blackmagic setup) has been added to the north-side computer lab which allows for hybrid courses to be taught using this space. This space is utilized weekly by BIS courses as well as BIS students, non-BIS students (for groupwork, homework, etc.) and non-BIS courses (Nursing, English, etc.).

Needs: Space to accommodate Help Desk certificate courses will be needed. A need for collaboration space has been identified. Space to handle hybrid courses or meetings with attendees in person and virtual would benefit students on campus and online as they work on projects in groups. The small section of the north lab would be ideal for such a collaboration space. During a recent meeting for the Facilities Master Plan, this space was discussed along with adding space for the Help Desk certificate equipment.

4 Financial Resources

Identify and evaluate the adequacy, availability, and sustainability of program financial resources.

Response

Our financial situation is adequate to run our programs and the computer lab. However, we depend on Perkins and other grants for money to start new programs that need equipment, training, or software.

9 Organizational Impact

1 Positive Impact

Describe ways that the program has a positive impact on the institution.

Response

Currently, the Information System program prepares students to enter the workforce with informational system knowledge and software application utilization. This allows employers to hire applicants who will not need trained in these areas. Information Systems is also a support program that helps prepare students in other areas with application knowledge that is vital to their program. For example, MIT students learning the applications of Microsoft through CMAP 1200; vital knowledge to enter the workforce in their respective area. Without the cross utilization of the Information Systems department, many different programs would be left with a gap where graduates would not know how to utilize the software they need for their future careers.

2 Functional Improvements

Describe a substantive change the program may undergo in the next two years to enhance the success of the institution.

Response

The creation of the Help Desk certificate will be vital as we have listened to our community advisors that have indicated they need employees who are able to be the front-line support for their information technology department. In the near future, the Help Desk certificate will fill a need in our local community and industry. It will be an area of interest for traditional and non-traditional students.

The area of health information is a growing locally and nationally. We have seen a trend where individuals are needed in health information management, medical coding, as well as medical administrative assistants. By retiring the Medical Administrative Assistant certificate and introducing the Medical Information Systems certificate, students will obtain the knowledge to potentially enter all three of these fields. Connections with our local hospitals and providers will help us succeed with this program.