Strategic Planning Data Brief: CTE Program Reviews

The following brief was prepared by the Office of Institutional Research and Effectiveness (BH) for the Strategic Planning sub-committee over employers/advisory committees, spring 2020. The data present information from the most recent (2019) R411 Program Reviews for career and technical education programs.

- Agricultural Technologies
- Allied Health
- Construction Technologies
- Industrial Technologies
- Information Technologies
- Outdoor Leadership and Entrepreneurship
- Services Technologies
- Transportation Technologies

This reporting has information on CTE Advisory boards associated with each program. For employer satisfaction or other relevant data, please consult Lisa Laird of Snow College's Career Services Center.

Agriculture Department Review Self-Study

representing courses taught in Agribusiness, Equine Management,
Ag Technology/Mechanics and Farm/Ranch Management

submitted to Snow College Board of Trustees and the
Utah State Board of Regents
Summer 2019

Reviewed Spring Semester 2019 with the rating of recommended

- Ryan Larsen, Assistant Professor of Applied Economics, Agribusiness, Farm Management, and Risk Analysis, Utah State University
- Sandra Cox, Assistant Professor of Communications, Snow College

Program Description and Mission Statement

Agribusiness

Agriculture has been part of Snow College from the beginning of the college. Currently the Agriculture program focuses on the business of farming and ranching and agribusiness. The Ag Business program is committed to building on our agriculture heritage with the goal of serving students with sound exceptional programs to build skills for successfully running and operating an Ag Business.

Since the previous Agribusiness program review was completed over five years ago the program has expanded in certificate and degree offerings (certificates of proficiency and completion and AAS degrees in Agribusiness, Equine Management and Ag Technology/Mechanics). The number and variety of classes offered has increased; in addition to 2 on going classes 3 were activated from the inactive class list and 13 new classes were created. These certificate and degree offerings and the associated new classes have resulted in substantial student numbers and program growth.

Snow College's Ag Business Department offers a Certificate of Proficiency, a Certificate of Completion and Associate of Applied Science (AAS) in Ag Business. Ag Business and Agriculture majors desiring to transfer to a university to work towards a Bachelor of Science (BS) in any area of Agriculture will want to complete an Associate of Science (AS 63 credits). Agriculture students desiring to enter the workforce following two years of college will look to pursue an Associate of Applied Science (AAS 63 credits). An AAS provides an ideal preparation for entrance into professions such as: agriculture business management and other business careers, livestock production, crop production, agriculture sales, agriculture marketing, and natural resource areas e.g. range management, forestry, grazing management and soil conservation. Students desiring a quick upgrade of agriculture skills will look towards a Certificate of Proficiency or Certificate of Completion.

Farm/Ranch Management

Snow College offers a Farm/Ranch Management program to assist farm/ranch families in achieving their business and personal goals by improving the profit- ability of their business.

The program teaches farmers and ranchers to keep detailed computerized financial and production records and to use these records in making timely and intelligent business decisions. Some computer literacy is also taught. The focus is on education and not merely a "bookkeeping service."

The program is designed to be spread over two to three years, depending on the farm/ranch family's business skills and business management objectives and goals; with opportunities to repeat courses based on changing technology, business needs, succession planning and family business Farm/ranch families may enroll at any time during the year, but it is recommended that they enroll at the beginning of their financial year. Instruction is two to three hours once a month (more if necessary) one-on-one at the farm/ranch site with occasional group instruction to discuss and give instruction on topics of common interest. All financial and production records and other information is kept strictly confidential.

Management of a farm/ranch is primarily a decision-making process. To be successful in management and decision-making processes, the program is composed of various units/courses taught in an organized sequence. Courses begin with basic accounting and management skills to growing the business and succession and estate planning. All courses are non-credit and repeatable. Approximately 135 contact hours are required to complete the program.

Snow College's Farm/Ranch Management was reviewed more than 5 years ago. Since the previous review the Farm/Ranch has experienced a 25% decrease in enrollment. This decrease is not reflective of a decreased demand in the agriculture community but reflects the substantial increased Agribusiness program teaching commitments of all agriculture faculty. It should be noted that substantial USDA grant funding has come into the Agribusiness program over the past nine years through Farm/Ranch Management work ($1,008,011). For continued and future grant funding to be justified there must be growth in the Farm/Ranch Business Management program. Evidence of the producer demand is seen in the number of farmers/ranchers who are on waiting lists and referral lists from central Utah agriculture lenders (banks).

A reality of the combination of agriculture certificate and degree programs and the associated classes with Farm/Ranch Management is the application of the academic course topics to the real world of agriculture. The farms and ranches enrolled in Farm/Ranch Management become a "real life" lab opportunity for students in the ag business classes to engage and apply their academics to current agriculture production.

Curriculum: please see Appendix A for a descriptive list of degrees and course requirements. Appendix B offers a comprehensive list of all currently taught courses.

Agribusiness

(core courses in addition to General Education and specific award level requirements)

Course	Description	GE	Credits
AGBS 1010	Fundamentals of Animal Science		4
AGBS 1100	Agri. Business Career Explorations		2
AGBS 2020	Intro. To Agri. Economics & Agri. Business		3
AGBS 2030	Agricultural Managerial Analysis & Decision Making		3
AGBS 1715	Technical Math*		3

**may be replaced with a general education QL math class*

Farm/Ranch Management

(recommended courses in addition to the General Education core coursework)

Course	Description	GE	Credits
FRM 2010	Farm/Ranch Management I		2
FRM 2020	Farm/Ranch Management II		2
FRM 2030	Farm/Ranch Management III		2
FRM 2040	Farm/Ranch Management IV		0.5

Student Learning Outcomes

Agribusiness

Students who complete an AS with emphasis in Agriculture Business, or students who complete an AAS in Agri. Business or either of the Agri. Business certificates should expect the following outcomes from the program:

Acquire Substantive Knowledge

- Have acquired a balanced and inclusive knowledge of agriculture business management.
- Are familiar with current theories and processes in planning, analyzing, and directing an agriculture business.
- Are familiar with internal and external business and economic forces that effect the business environment of agricultural business.

Communications

- Are comfortable and confident in making decisions, expressing ideas and organizing ideas into presentations and able to interact with others
- Be able to produce clear, purposeful and grammatically correct written documents.

Computation

- Have the ability to keep financial and production records and apply financial and production records in decision making.
- Be able to perform appropriate analyses for quantitative and qualitative data and decision making.

Professionalism

- Appreciate the relationship between producing food, fiber and fuel and caring for nature and their physical and life sciences.
- Be able to work with a partner or as a team to prepare and present a presentation an informative and effect presentation on a substantive agriculture topic.

Technology

- Know fundamental use of computers in an agriculture business management setting using spreadsheets, accounting software and basic agriculture business analysis software.
- Be able to produce professional-looking documents, presentations and projects using current industry standard software.

Farm/Ranch Management

Students who complete courses in Farm/Ranch Management will be expected to demonstrate that they:

- Have record-keeping skills necessary for business decisions;
- Can maintain a working chart of accounts;
- Can post income and expenses to the accounting system using the chart of accounts;
- Are able to reconcile their accounting system with their monthly bank statements;
- Know how to apply the financial and production records in decision making;
- Know the principle purpose of financial statements in obtaining loans and providing information for income taxes;
- Know how to interpret financial statements in order to analyze strengths and weaknesses of the farm/ranch through benchmarking to local, regional and national matrixes.
- Develop a budget and monitor actual to budget income and expenses;
- Have a sense of satisfaction in developing a budget while monitoring their desired outcome;
- Feel a sense of accomplishment in their management skills and abilities;
- Have a feeling of confidence as they see their financial soundness improve;
- Know the contribution that they are making to society by providing food.

Students (all specialties combined)

	2014	2015	2016	2017	2018
Number of Graduates	0	10	11	9	16
Certificates	0	1	0	0	0
Associate Degrees	0	9	11	9	16
Bachelor's Degrees	NA	NA	NA	NA	NA
Master's Degrees	NA	NA	NA	NA	NA
Doctoral Degrees	NA	NA	NA	NA	NA
Number of Students	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Total Headcount	74	141	107	134	161
Total Declared Majors	44	69	35	63	66
Total Department FTE	21.3	32.5	33.8	41.5	54.2
Total Department SCH	319.5	487.5	507.0	622.5	813.0
Student FTE/Faculty FTE	14.2	19.1	14.1	14.3	14.6

Source: Snow College Institutional Research

Academic Advising

The general advising of students attending Snow College is conducted through the Student Success Center. The Center employs many advisors who are trained to help with schedules, consult about major and career options, and find financial aid resources to pay for school. However, faculty members and part-time instructors in the agriculture program often meet with students to discuss their current academic and/or performance needs as well as their future goals. In Fall Semester 2019 an advisor was hired to

advise agriculture, business and applied technology students as part of the Student Success Center advising team.

Faculty

Agribusiness, Equine Management, Ag Technology/Mechanics, Farm/Ranch Management

- Jay Olsen MS, Brigham Young University – AGBS classes and FRM (21 years at Snow College)
- Kendra Bagley, BS Utah State University – Rodeo Team Coach, AGBS Equine classes, and FM (6 years at Snow College)
- Matthew Goble, BS Utah State University– AGBS, AGTM classes, and FRM (2 years at Snow College). Matt is currently working to complete an MS from Colorado State University in Resource Management, completion target will be Dec 2020.

Faculty Headcount	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
With Doctoral Degrees					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time	1	1	1	1	1
With Master's Degrees					
Full-Time Tenured	1	1	1	1	1
Full-Time Non-Tenured					
Part-Time					
With Bachelor's Degrees					
Full-Time Tenured					
Full-Time Non-Tenured	1	1	2	2	2
Part-Time					
Other					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time		2	1		
Total Headcount Faculty	3	5	5	4	4
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time					
FTE					
Full-Time					
Teaching Assistants	NA	NA	NA	NA	NA
Part-Time					
Total Faculty FTE	1.5	1.7	2.4	2.9	3.7

Source: Snow College Institutional Research

Program Support (all specialties combined)

Fiscal Year	1314	1415	1516	1617
Cost				
Direct Institutional Expenditures	$120,802	$139,883	$105,605	$180,798
Cost Per Student FTE	$7574	$8,814	$6176	$5,333
Funding:				
Appropriated Fund	NA	NA	NA	NA
Other:				
Special Legislative Appropriation	NA	NA	NA	NA
Grants or Contracts	$107,533	$118,370	$379,622*	$158,334
Special Fees/Differential Tuition	NA	NA	NA	NA

Source: Snow College Institutional Research

**Program grants awarded from the National Science Foundation—Applied Technology Education (3-year grant) and Utah Department of Workforce Services to begin the Ag Technology/Mechanics program.*

Program Assessment

In accordance with Utah State Board of Regent's policy R411 on the periodic review of educational programs, an on-site visit of Snow College's Agriculture Business and Agricultural Technology & Mechanics program was conducted Spring Semester 2019. This visit was preceded by a careful reading of the program's self-study document and included a comprehensive tour of current facilities, conversations with students, class visits, and faculty and administration interviews.

Program Strengths:

- Tenure: The agribusiness program is the oldest program and serves as fantastic foundation for the other programs in equine management, ag technology/mechanics, and farm/ranch management. The agribusiness curriculum provides great training for students, who are well-prepared to run their own business or continue to a four-year degree. Students are also exposed to many real-world cases thanks to the synergies developed with the Farm & Ranch Management program. Students can analyze real world farms and understand the complexities associated with business decisions. Very few Agribusiness programs at either the 4-year or 2-year level can accomplish this. Snow College students are some of the highest performing students within the Utah State Agribusiness program.

- Reputation: The Farm & Ranch Management Program is also a flagship program within the state of Utah and nationally. The program's ability to generate grant funding and provide training for farmers and ranchers is commendable. With limited resources, this program has grown and continues to grow.

- New Concentrations: The Ag Technology/Mechanics program is the newest but is already attracting strong students and is also developing a good reputation within the agricultural technology industry. Each class utilizes current technology such as UAV's and variable rate irrigation systems. The Equine Management program is also relatively new but has quickly become

a strong program. This program capitalizes on the strength of the Snow College Rodeo team. The Equine Management program provides students with a science or business emphasis. This is a great model for students as they prepare for a career in the equine industry.

- Entrepreneurship: The faculty focus on entrepreneurship throughout the curriculum is very beneficial to workforce-ready or transfer students. The small class sizes and the faculty's commitment to the students is easily recognized. The students view the faculty as mentors. The faculty have done a nice job in utilizing their facilities. The college farm provides a "living" laboratory for students. The equine facilities are adequate. The shop facilities are organized and clean.

Program Concerns:

- Workload: Faculty workload is a pressing concern. Many of the faculty accomplish additional work (i.e. advisor/coach to the Rodeo Team with very little compensation (money or release time).

- Rodeo Team Funding: The Rodeo team appears to be a successful athletic team within Snow College, but the funding appropriated to them does not match the needs. The riding facilities are adequate but not suitable long term. Many of the rodeo team members pay much of the cost out of their pockets. This includes driving themselves and paying for their own travel and lodging. From a liability perspective, utilizing a college transport system appears to be a good solution. Grant funds are used to make up a lot of the shortfalls within the program.

- College Farm: The college farm appears to be utilized inappropriately. In one part of the field is a cutting-edge irrigation pivot and then in the corner is a catch all area that houses burn piles and other college waste. This is a concern from both a public perspective and inefficient use of resources.

- Organizational Leadership: A transition plan for the program's chair needs to be developed. Jay Olsen is the driver and leader of this program. His ability to teach, mentor, generate grant funds, and navigate collegiate politics is difficult to duplicate. He mentioned that he has a lot of time left but still the concern is who takes over his responsibilities.

<u>Program Recommendations:</u>

1. Rodeo Team Support: It was recommended that the funding for the Rodeo team be evaluated by the college and department. The current funding system is not sustainable and needs to be fixed. The loss of the coach or the team would be detrimental to Snow College. This evaluation also includes an analysis of the team transport issues. It is recommended that Snow College invests in means to assist with the transport of animals and team members.

   Institutional Response: Through the new budget process, the Agriculture program submitted a budget proposal for $10,000 additional dollars for the rodeo team. Kendra met with the college Budget Task Force Committee on March 13th to present the proposal. The committee highly recommended that we petition the Athletic Director for $10,000 now, before the semester ends,

rather than wait for a full year for any additional funding to come through the recommendation from the Budget Task Force. A few weeks following the Budget Task Force presentation, Snow College's Athletic Director offered to pay the costs for rodeo athletes attending the National Collegiate Rodeo Finals Rodeo in June 2019. He also asked Kendra to submit a budget for the upcoming fiscal year that includes an amount to cover all travel costs for the collegiate Rocky Mountain Region Rodeos, not just the fuel cost as has been done in the past. Consideration is being given to moving fiscal control of the rodeo team budget from Athletics to the Agriculture program. The program is currently seeking funding to purchase or have donated a 20 horse 53' horse trailer and college semi-tractor. The program would propose a project to welding program students to retrofit the trailer with dividers and a tack racks. ($8,000 was added for the upcoming fiscal year.)

2. Facility Improvements: It was recommended that a plan is put into place to increase and modernize the Equine and Rodeo facilities. This would increase both the recruiting into the program and avoid any animal welfare issues.

   Institutional Response: Pending Ephraim City's and Snow College's development of a soccer or baseball field at the current arena's location, any effort to make this location more permanent is on hold. The long-term goal would be to locate the arena just east of the horse barn and west of the pivot where with permanent provisions for livestock water, corrals and a shed/barn for practice calves (complete with arena sand), stalls for student horses, and clean and de-junk the area. In the meantime, the program plans upgrade the outside horse stall area with heavy duty panels and provide a raised stall area to improve drainage at the current location Ideas for funding (either through grants or donations) for a covered indoor arena with adjacent stall area are also being considered.

3. Name Change: It was recommended that the Ag Technology/Mechanics program evaluate the idea of changing the name to Precision Agriculture program. It is also recommended that this program develop industry partnerships that can help guide the program and keep it dynamic as the industry continues to change rapidly. These industry partnerships could also be used to identify internship opportunities for students.

   Institutional Response: Rebranding of the Ag Tech/Mech. program will be pursued through the appropriate channels to rename the program "Precision Agriculture". This will allow the program to expand industry partnerships to include more precision equipment, curriculum and industry internships. Program faculty plan to visit peer colleges that have a Precision Ag degrees or areas of emphasis to learn from them and adapt their curriculum to match Utah's agriculture needs.

4. Farm Utilization: It was recommended that the college analyzes the use of the college farm and to stop utilizing the farm as a catch all for college waste. This would include identifying potential uses for the corners of the land. For example, developing compost that could be sold would provide both business and science applications for students.

Institutional Response: Program faculty plan to meet with college physical facilities to eliminate non-compostable college waste. In addition, faculty plan to work with the College's recycling group(s) and/or biology student groups on a composting project using the college's organic waste materials. This would include developing a partnership with Snow College's Sustainability committee, the Center for Rural Entrepreneurship and other college departments to purse a grant for a compost turner. Long-term, the composting project would involve participation from Ephraim City leadership and citizenry. Given the size of the project there is potential for a county-wide (maybe regional) marketing plan that could fund student employment and/or scholarship opportunities across multiple disciplines.

5. Strategic Plan: It was recommended that the Agriculture Program develop a long-term strategic plan that includes a succession plan. This strategic plan would also discuss the role of grants in overall funding and the use of an Advisory Board to guide the program.

   Institutional Response: Program faculty and division leadership will start to build a strategic plan that will support the 3 current AAS degrees and certificates and add a Livestock Production/Animal Science degree and an Agronomy degree. In addition, the strategic plan will address the following:
   - *increased support and emphasis of Farm Business Management as the corner stone of the agriculture program and as a major platform form for grant funding and a valuable college service to the agriculture community of Central Utah. This will continue the model of each Agriculture faculty member having a portion of their workload committed to Farm Business Management;*
   - *a delineated program succession plan that defines areas of responsibility and provides opportunities for program leadership and development to all Ag Business faculty;*
   - *the transition of grant-funded faculty positions to program (line-item) funded positions. This will allow grant funds to be used for program expansion and not faculty subsidizing;*
   - *the procurement of an NSF-ATE or other grant to add the AAS Livestock Production/Animal Science degree and certificates. Faculty development opportunities will include training on grant writing and grant management;*
   - *utilization of Snow College's GE Foundations curriculum to hire an instructor for Business and Ag Business with an emphasis on teaching credentials applicable to business and business ag classes; and*
   - *the development of current advisory board members to represent all areas of agriculture education and programming. On April 11th, 2019, the Ag Technology/Mechanics Advisory Board met agreed unanimously to assume the role of the Snow College Agricultural Advisory Board.*

Appendix A: Course Requirements Specific to Degree Outcomes

Agribusiness

Agribusiness Certificate of Proficiency

AGBS 1010 Fundamentals of Animal Science (4) or
NR 1030 Fundamentals of Food Production Systems (2)
AGBS 1100 Agri. Business Career Explorations (2)
AGBS 2020 Intro Agri. Economics and Agri. Business (3)
AGBS 2030 Agricultural Managerial Analysis & Decision Making (3)
BUS 1060 QuickBooks for Small Business (3)
BUS 1600 Entrepreneurship Seminar (1)
BUS 1010 Introduction to Business (3) or
BUS 2650 Management Principles for Entrepreneurs (3)

Required Credits: 17-19

Agribusiness Certificate of Completion

ENGL 1010 Expository Composition (3)
ECON 1740 US Economic History (3) or
HIST 1700 American Civilization (3)
AGBS 1010 Fundamentals of Animal Science (4)
AGBS 1100 Agribusiness Career Explorations (2)
AGBS 2020 Intro. To Agri. Economics & Agri. Business (3)
AGBS 2030 Agricultural Managerial Analysis & Decision Making (3)
BUS 1010 Introduction to Business (3)
BUS 1060 QuickBooks for Small Business (3)
BUS 1600 Entrepreneurship Seminar (1-2)

Choose 6 credits (2 classes) from the following
BUS 1300 Social Media Marketing (3)
BUS 1210 Personal Finance (3)
BUS 1480 Advertising and Promotion (3)
BUS 2650 Management Principles for Entrepreneurs (3)
BUS 1480 Advertising and Promotion (3)
BUS 2650 Management Principles for Entrepreneurs (3)
BUS 2050 Business Law (3)

Required Credits: 31-32

AAS Agribusiness

AGBS 1010 Fundamentals of Animal Science (4)
AGBS 1100 Agri. Business Career Explorations (2)
AGBS 2020 Intro. To Agri. Economics & Agri. Business (3)
AGBS 2030 Agricultural Managerial Analysis & Decision Making (3)
BUS 1010 Introduction to Business (3)

BUS 1060 QuickBooks for Small Business (3)

Choose 6 credits (2 classes) from the following
BUS 1300 Social Media Marketing (3)
BUS 1210 Personal Finance (3)
BUS 1020 Computer Technology and Applications (3)
BUS 2450 Presentations for Business (3)
BUS 1170 Team and Interpersonal Dynamics (3)
BUS 2650 Management Principles for Entrepreneurs (3)
BUS 2050 Business Law (3)
ENGL 1010 Expository Composition (3)
AGBS 1715 Technical Math or
MATH 1030 Quantitative Literacy or
MATH 1040 Introduction to Statistics (3)
ECON 1740 US Economic History (3) or HIST 1700 American Civilization (3)
Fine Arts (3)
Humanities (3)
BIO 1010 General Biology and 1015 lab (4)
Agronomy Emphasis take BIOL 1610 and lab 1615) (4)

Required 43 credits (plus 20 credits for one area of Emphasis listed below)

Agribusiness & Management - Area of Emphasis (20 credits from the following)
ACCT 1200 Tax Preparation (1)
PHSC 1000 Interdisciplinary Physical Science (3)
BUS 1210 Personal Finance (3)
BUS 1600 Entrepreneurship Seminar (2) or (must be an additional class to the core class options)
BUS 2650 Management Principles for Entrepreneurs (3) or BUS 2050 Business Law (3)
ACCT 2010 Financial Accounting (3)
ACCT 2020 Managerial Accounting (3)
ECON 2010 Introduction to Microeconomics (3)
ECON 2020 Introduction to Macroeconomics (3)

Animal Science - Area of Emphasis (20 credits from the following)
PHSC 1000 Interdisciplinary Physical Science (3)
BUS 1600 Entrepreneurship Seminar (2)
AGBS 2200 Anatomy & Physiology of Domestic Animals & 2205 Lab (4) or
AGBS 2500 Animal Breeding (4)
AGBS 2400 Livestock Feeds and Feeding (4)
AGBS 1420 Livestock Production Practices (2)
NR 1010 Introduction to Natural Resources (2)
NR 2040 Introduction to Range Management (3)

Agronomy - Area of Emphasis – (20 credits from the following)
PHSC 1000 Interdisciplinary Physical Science (3)
BIOL 1610 Biology I and 1615 Lab (5)

BIOL 2300 Plant Taxonomy and 2305 Lab (4)
NR 1010 Introduction to Natural Resources (2) or NR 2040 Introduction to Range Management (3)
AGTM 2500 Irrigation Management (3)
AGTM 2600 Aerial Imagery - Drones in Ag and Computer Applications (3)
AGTM 1330 Chemicals and Applications (2)
BIO 2580 Introduction to Soil Science (3)
BIO 2585 Introduction to Soil Science Lab (1)

Range - Area of Emphasis – (20 credits from the following)
BIOL 2300 Plant Taxonomy and 2305 Lab (4)
AGBS 1420 Livestock Production Practices (2)
AGBS 2400 Livestock Feeds and Feeding (4)
NR 1010 Introduction to Natural Resources (2)
NR 2040 Introduction to Range Management (2) or NR 2060 Survey of Hydrology (3)
AGTM 1330 Pesticide Applications (2) or NR 2805 Short Term Training in Natural Resources (1-2)
AGTM 2600 Aerial Imagery - Drones in Ag and Computer Applications (3)

Equine Management

Certificate of Proficiency in Equine Management (23 Credits)

AGBS 1010 Fundamentals of Animal Science (4)
BUS 1060 QuickBooks for Small Business (3)
AGBS 1100 Agribusiness Career Explorations (2)
BUS 1600 Entrepreneurship Seminar (2)
BUS 1300 Social Media Marketing (3)
AGBS 2030 Agriculture Managerial Analysis & Decision Making (3)
AGBS 1700 Western Riding Skills I (3) and
AGBS 1900 Western Riding Skills I (3) or
AGBS 2700 Western Riding Skills II (3) and
AGBS 2900 Western Riding Skills II (3)

Certificate Completion in Equine Management (32 Credits)

ENGL 1010 Expository Composition (3)
ECON 1740 US Economic History (3) or
HIST 1700 American Civilization (3)
AGBS 1010 Fundamentals of Animal Science (4)
AGBS 1100 Agribusiness Career Explorations (2)
AGBS 2030 Analysis and Decision Making (3)
BUS 1300 Social Media Marketing (3)
AGBS 1700 Western Riding Skills I (3)
AGBS 1900 Horse Breaking and Training I (3)
AGBS 2700 Western Riding Skills II (3)
AGBS 2900 Horse Breaking and Training II (3)

AAS in Equine Management (42 credits)

ENGL 1010 Expository Composition (3)
MATH 1030, 1040, or 1050 Any Class that meets the MA requirement (3)
BUS 1270 Strategic Selling (3)
ECON 1740 US Economic History (3) or HIST 1700 American Civilization (3)
Fine Arts (3)
Humanities (3)
Biology 1010 General Biology and 1015 lab (4) (BIOL 1610/1615 if transferring to USU)
AGBS 1010 Fundamentals of Animal Science (4)
AGBS 1100 Agriculture Career Exploration (2)
AGBS 2030 Analysis and Decision Making (3)
AGBS 1420 Livestock Production Practices (2)
BUS 1060 QuickBooks for Small Business (3)

Choose 6 credits (2 classes) from the following
BUS 1300 Social Media Marketing (3)
BUS 1210 Personal Finance (3)
BUS 2650 Management Principles for Entrepreneurs (3)
BUS 1480 Advertising and Promotion (3)
BUS 2050 Business Law (3)

Required 42 credits (plus 20-21 credits for one area of Emphasis listed below)

Equine Business Management-Area of Emphasis (21 credits)
AGBS 1700 Western Riding Skills I (3)
AGBS 2700 Western Riding Skills II (3)
AGBS 1900 Horse Breaking and Training I (3)
AGBS 2900 Horse Breaking and Training II (3)
ACCT 2010 Financial Accounting (3)
BUS 1020 Introduction to Business (3) or ACCT 2020 Managerial Accounting (3)
AGBS 2020 Intro Ag Economics & Agri. Business Mgt. (3) or
ECON 2010 Introduction to Microeconomics (3)

Equine Production Management-Area of Emphasis (20 credits)
AGBS 1700 Western Riding Skills I (3)
AGBS 2700 Western Riding Skills II (3)
AGBS 1900 Horse Breaking and Training I (3)
AGBS 2900 Horse Breaking and Training II (3)
Choose 4 credits (2 classes) from the following
AGBS 2200 Anatomy &Physiology Domestic Animals + Lab (4)
AGBS 2500 Breeding and Reproduction (4)
AGBS 2400 Feeds and Feeding (4)

Ag Technology/Mechanics

Certificate of Proficiency in Agricultural Systems

BUS 2200 Business Communications or English 1410 (3)
DMT 1930 & 2930 Leadership and Professional Development (2)
Math 1715, 1030 or 1040 (3)
DMT 1101, 1105 Engine repair (5)
WELD 1030 Related Welding (3)
AGTM 1210 Small Engine Repair (2)

Required credits: 18

Certificate of Completion in Agricultural Systems

BUS 2200 Business Communications or English 1410 (3)
DMT 1101/1105 Engine Repair (5)
DMT 1930 & 2930 Leadership and Professional Development (2)
WELD 1030 Related Welding (3)
Math 1715, 1030 or 1040 (3)
AGTM 1210 Small Engine Repair (2)
AUTO 1600 Electricity & Electronics (5)
DMT 1301/1305 Diesels Drivetrains (6)
AGTM 1050 Farm Machinery Maintenance and Repair (3)

Required credits: 32

AAS in Agricultural Systems or Agricultural Mechanics

Mechanics Emphasis

DMT 1000 Diesel Safety and Basics (1)
DMT 1101 Diesel Engine Repair and Overhaul (2)
DMT 1105 Diesel Engine Repair and Overhaul Lab (3)
DMT 2311 Hydraulics and Pneumatics (2)
DMT 2315 Hydraulics and Pneumatics Lab (2)
AGBS 1100 Agri. Business Career Exploration (2)
BUS 1020 Computer Technology and Application (3)
DMT 1930 Leadership & Professional Development (1)
WELD 1030 Related Oxyacetylene & Arc Welding (3)
DMT 2930 Leadership & Professional Development (1)
Oral Communications (3)
Social Behavioral Science or American Institutions (3)
ENGL 1010 Expository Composition (3)
AGBS 2020 Ag Econ/ Agribusiness Management (3)
DMT 1600 Electrical and Electronics 1 (5)
DMT 1801 Computerized Engine Controls and Fuel (2)
DMT 1805 Computerized Engine Controls and Fuel Lab (2)

DMT 2801 Emissions Control Systems (2)
DMT 2805 Emissions Control Systems Lab (2)
AGTM 1050 Farm Equipment Management (3)
DMT 1301 Transmissions and Drivetrains (3)
DMT 1305 Transmissions and Drivetrains Lab (3)
MTT 1350 Related Machine Shop Practice (2)
MATH 1715, 1010, 1030, 1040, or 1050 (3 or 4)
GEO 1700 Fundamentals of GPS and GIS (3)
BUS 1600 Entrepreneurship Seminar (1)

Technology Emphasis

AGBS 1100 Agri. Business Career Exploration (2)
GEO 1700 Fundamentals of GBS and GIS (3)
AGTM 1050 Farm Equipment Management (3)
ENGL 1010 Expository Composition (3)
BUS 1020 Computer Technology and Applications (3)
AGTM 1210 Small Engine Repair (3)
AGTM 2500 Irrigation Systems (3)
AGTM 2600 Drones in Agriculture (3)
Oral Communications (3)
Social Behavioral Science or American Institutions (3)
MATH 1030 or 1040 or 1050 (3 or 4)
INDM 1050 Industrial Safety (1)
INDM 1600 Industrial Electricity (3)
INDM 1620 Industrial Electronics (3)
INDM 1800 Industrial Hydraulics (3)
INDM 1820 Pumps (3)
WELD 1020 Shielded Metal Arc Welding (4)
INDM 1500 Industrial Pneumatics (3)
INDM 1900 Industrial Controls and PLC (3)
MTT 1110 Introduction to Precision Machining (3)
MTT 1125 Introduction to Precision Machining Lab (5)
INDM 1930 Leadership & Professional Development (1)

Curriculum: Please see Appendix A for a descriptive list of Agriculture program course offerings.

Appendix B: Agriculture Technology Courses

AGBS 1010 Fundamentals of Animal Science

Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (4:4:0)
Description: The historical perspective and importance of animal production will be examined relative to time, society and geographical location. The contribution of animal production and related food products to our society will be covered. Scientific selection, breeding, feeding and management will be studied as they relate to efficiency of production of the various farm animals and consumer demand.

AGBS 1100 Career Exploration in Agribusiness

Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This class introduces students to a variety of agriculture careers in agribusiness, production, public and private service, and sales and marketing opportunities related to agriculture. Emphasis will be on opportunities in the western United States. A variety of guest lecturers will present real-world insight into various careers. Students will also develop their own professional letter of application and resume.

AGBS 1420 Livestock Production Practices

Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (2:1:2)
Description: Agriculture livestock production enterprises will be examined and production practices and production facilities investigated. A Students will be exposed to a variety of production, processing and marketing methods, both traditional and entrepreneurial, in the fields of beef, dairy, poultry, sheep, goat, and horse animal agriculture.

AGBS 1700 Western Riding Skills I

Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (3:2:2)
Description: The objective of this class is to allow students to practice and further develop their horsemanship skills. This course is designed to cover principles of basic horsemanship and will include some of the principles of schooling/training horses that are already broke to ride. An understanding of horse behavior and safe conduct around horses are central to the course. Students will be introduced to the fundamentals of riding, handling and grooming, as well as becoming familiar with the parts of the horse. Students have the opportunity for hands-on application of these principles by actually riding and schooling horses during this course. Topics presented will include horsemanship skills, equine behavior, equine psychology, and how this knowledge can be utilized to produce and present a willing, useful horse. Goals will be set for each student-horse pair, and efforts will be made to reach these goals. Students must have or arrange for their own horse.

AGBS 1715 Applied Technical Math

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course covers the principles of business math and algebra and geometry as they apply to

problem solving in the Business and Applied Technologies (BAT) division programs. It includes basic business mathematical concepts the quadratic equation, exponents and radicals, polynomials, constructions of geometric shapes, the circle concept, and applications of volume and shapes.

AGBS 1900 Horsebreaking and Training I

Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course introduces fundamental principles and techniques used in starting and training young horses. It covers safety, equipment, handling principles, and techniques through practical application. Students will begin this course with a horse that has never been ridden. They will learn and apply techniques on this horse to take him from halter broke to riding under the saddle. Students must have or make arrangements to have their own horse.

AGBS 2020 Introduction to Agricultural Economics & AgriBusiness Management

Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course will introduce students to important aspects of the agricultural economy, its structure and function, how agricultural markets work, the impact of public policy on agriculture economics, and the relationship between agribusiness and agriculture economics.

AGBS 2030 Managerial Analysis and Decision Making

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: Using agricultural management software, students will apply management skills to actual agricultural businesses through analysis of real financial and production records. Students will determine a business's strengths and weaknesses and develop recommendations for improving the sustainability of the business. Through presentations from actual business owners, students will see the effect of implementing planned changes on a business. Students will participate in developing a business plan for an agricultural business. AGBS 2020 is a prerequisite for this course, or instructor approval must be given.
Prerequisites: AGBS 2020

AGBS 2200 Anatomy and Physiology of Domestic Animals

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
General Ed Requirement: Science Inquiry
Description: This class is a study of the anatomy of domestic animals and the functions of the various systems. Each system is studied separately with emphasis on the skeletal, circulatory, digestive and reproductive systems.
Corequisites: AGBS 2205

AGBS 2205 Anatomy and Physiology of Domestic Animals Lab
Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (1:0:2)
General Ed Requirement: Life Science Lab
Description: This laboratory setting allows students to physically examine domestic animal tissues, organs, and systems.
Corequisites: AGBS 2200

AGBS 2400 Livestock Feeds and Feeding
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (4:4:0)
Description: Students will study the differences in digestive tracts of farm animals and the related digestive physiology. The composition of feeds and their uses are analyzed and ration balancing is practiced. Least cost rations are balanced for farm animals and pets using a pencil, a calculator and computer.

AGBS 2500 Applied Animal Reproduction & Breeding
Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (4:4:0)
Description: This course introduces students to animal reproduction. The course will cover the anatomy, function and regulation of livestock animal's reproductive cycle. Breeding systems and processes, including artificial insemination, embryo transfer, semen evaluation and collection, synchronization, pregnancy diagnosis, parturition and lactation, will be covered. Students will be introduced to genetic selection principles and methods of genetic and production measurement for the improvement of livestock.

AGBS 2700 Western Riding Skills II
Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course is designed for the intermediate rider and will allow students to further practice and develop riding skills. Students will concentrate on improving control and execution of aids, collection and control, and interpreting horse behavior. Students will also be introduced to more advanced equitation maneuvers and patterns as they are encouraged to develop skills useful for training and showing horses. Instruction will review and improve knowledge and skills in barn safety, horse health care, and riding techniques. There will be mounted as well as un-mounted (classroom) lessons. Students must have or arrange for their own horse.
Prerequisites: Western Riding & Horsemanship I

AGBS 2900 Horse Breaking and Training II
Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course introduces more advanced principles and techniques used in starting and training young horses. It covers safety, equipment, handling principles, and techniques through practical application. Students will begin this course with a horse that was either used in the Horse Breaking & Training I course or with a horse that has no more than 30 days riding time. They will learn and apply techniques on this horse to take him from beginning riding under the saddle to work or competition suitable

and marketable for sale. Students must provide or have access to their own horse.;
Prerequisites: Horse Breaking & Training I

AGTM 1050 Farm Machinery Maintenance, Management and Operation

Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course prepares students to analyze the factors that comprise safe machinery management and operation, and to explain the function of various machines and mechanisms. Students will learn machinery operation, farm machinery safety, procedures for diagnosing machinery problems, and processes for making machinery management decisions.

AGTM 1210 Small Engines Power Systems

Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (2:1:2)
Description: Students will apply principles and techniques of small engine power systems used in the agricultural industry, particularly agricultural production. Proper use of tools, equipment, and safety will be emphasized in maintaining and repairing small engines.

AGTM 1330 Chemicals and Applications

Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (2:1:2)
Description: This course is designed to familiarize students with agricultural pests and measures for pest control. Special emphasis will be placed on using the proper equipment and techniques for applying pesticides. Equipment and methods used to apply pesticides in agriculture with emphasis on techniques to avoid misapplication and pesticide drift.

AGTM 2500 Irrigation Systems Equipment Maintenance and Repair

Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course will introduce students to the management and technology used in sprinkler irrigation systems. Emphasis will be on pivot maintenance and operation of Variable Rate (precision) Irrigation. Water requirements, water resources, application methods, types and selection of irrigation equipment, application time and rates, irrigation well principles and operation, maintenance and repair, costs and return will be covered.

AGTM 2600 Drones in Agriculture and Associated Computer Applications

Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course will offer an introduction to Unmanned Aerial Systems (UAS) used in precision agriculture. This course will focus on hands-on learning of hardware and software on the college farm, discussion on related topics and ideas, and federal licensing requirements.

FRM 2010 Farm/Ranch Management I

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:1:2)

Description: This course is designed to teach individual farmers/ranchers to organize and computerize their farm/ranch records. Individualized instructional format focuses on record keeping with emphasis on using, operating, and maintaining computerized records. Class will consist of monthly farm/ranch visits with some group instruction. Students will receive either a P (passing) or F (failing) grade at the conclusion of their enrollment year. Students are registered upon instructor approval.

FRM 2020 Farm/Ranch Management II

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:1:2)
Description: This course is a continuation of Farm/Ranch Management I. Instruction emphasizes the organization of farm/ranch financial and production information into enterprises and completion of a fiscal year-end enterprise analysis report. Class will consist of monthly face-to-face farm/ranch visits with some group instruction. Students will receive a P (passing) or F (failing) grade at the conclusion of the semester. Students are registered upon approval from the instructor.
Prerequisites: FRM 2010

FRM 2030 Farm/Ranch Management III

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:1:2)
Description: This course is a continuation of Farm/Ranch Management II. Instruction emphasizes budgeting, cash flow planning, and total farm/ranch record analysis for management decision making. Class will consist of monthly face-to-face on farm/ranch visits with some group instruction. Students will receive a P (passing) or F (failing) grade at the conclusion of their enrollment year. Students are registered upon approval from the instructor.
Prerequisites: FRM 2020

FRM 2040 Farm/Ranch Management IV

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (5:0:1)
Description: This course is designed to teach advanced principles of farm/ranch business management and is designed to meet specialized individual student needs. Five areas of specialization are emphasized. Individual instruction focuses on one or more of the following areas: inventory management, production records, and financial analysis; different business entities and how they are structured; various agricultural leasing options; tax planning information; and market planning.
Prerequisites: FRM 2030

Appendix C: Curriculum Map and Assessment Plan

Snow College Agribusiness Curriculum Map

Summary:

Agriculture has been part of Snow College from the beginning of the college. Currently the Agriculture program focuses on the business of farming and ranching and agribusiness. The Agri. Business program is committed to building on our agriculture heritage with the goal of serving students with sound exceptional programs to build skills for successfully running and operating an agribusiness.

Outcomes:

Students who complete an AS with emphasis in Agriculture Business, or students who complete an AAS in Ag Business or either of the Ag Business certificates should expect the following outcomes from the program:

1. Are familiar with internal and external business and economic forces that effect the business environment of agricultural business.
2. Are comfortable and confident in expressing ideas and organizing ideas into presentations and able to interact with others.
3. Be able to produce clear, purposeful and grammatically correct written documents.
4. Have the ability to keep financial and production records and apply financial and production records to decision making.
5. Be familiar and know the terminology of animal biological and systems.
6. Be able to work with a partner or as a team to prepare and present a presentation an informative and effective presentation on a substantive agriculture topic.
7. Know fundamental use of computers in an agriculture business management setting using spreadsheets, accounting software and basic agriculture business analysis software.

Program Coursework and Assessment	Knowledge Area: Agribusiness							
	Familiar with internal and external business and economic forces that effect the agriculture business environments	Are comfortable in expressing ideas and organizing ideas into presentations and able to interact with others.	Be able to produce clear, purposeful and grammatically correct written documents.	Have the ability to keep financial and production records and apply financial and production records to decision making.	Be familiar and know the terminology of animal biological and systems.	Be able to work with a partner or as a team/group to prepare and present an informative and effective presentation on a substantive agriculture topic.	Know fundamental use of computers in an agriculture business management setting using spreadsheets, accounting software and basic agriculture business analysis software.	Meets another Program level outcome
Course/Program Outcome	1	2	3	4	5	6	7	
AGBS 1010: Fundamentals of Animal Science		X				X		AGBS
AGBS 1100: Agri. Business Career Explorations	X							AGBS
AGBS 2020: Intro to Agri-Economics & Agri. Business	X	X	X			X		AGBS
AGBS 2030: Agricultural Managerial Analysis & Decision Making		X	X	X		X	X	AGBS
AGBS 1420 Livestock Production Practices	X				X			AGBS
AGBS 2200 & 2205 Anatomy and Physiology of Domestic Animals & Lab					X			AGBS
AGBS 2400 Livestock Feeds and Feeding					X		X	AGBS

AGBS 2500 Applied Animal Reproduction & Breeding		X	X		X			AGBS
BUS 1010: Introduction to Business	X	X	X			X		AGBS/BUS
BUS 1060: Business Management Accounting							X	AGBS/BUS
BUS 1600: Entrepreneurship Seminar	X							AGBS/BUS

- Blue boxes represent assessment for more than one program.
- Orange boxes represent assessment for this program

Snow College Equine Management Curriculum Map

Summary:

The Ag Business program is designed to prepare students with a sound educational background in agriculture business while striving to meet the needs of a student's goals. The addition of the AAS in Equine Management expands the scope and credentials of the Ag Business Department and increase the opportunities for students desiring to be involved in the evolving and expanding equine related industry by allowing them to:

- Return to the family farm/ranch equine business with the ability to better manage it as a business.
- Discover and develop an entrepreneurial mind set for establishing an equine related business.
- Gain employment as an equine industry sales representative in feed and supply, e.g. nutrition and feed supplements, saddles, rope, and other equine equipment.
- Transfer to a university for a four-year Bachelor of Science degree in Equine Management, or a related agriculture field.
- Major in another discipline but give them the tools to work part-time, own, or be involved in an equine or equestrian boarding, training, or production agriculture business that has equine component or own and operate a farm/ranch.

Outcomes:

A student who completes an AAS degree in Equine Management at Snow College should expect to leave with the following outcomes:

Acquire substantive knowledge:

1. Students will understand the fundamentals of an equine management or equine production business and the relationship of equine management in the agriculture industry.
2. Students will understand that equine management encompasses people's love for the horse for recreation, entertainment, sport, and work.

Communications:

3. Students will be able to organize and effectively present themselves to prospective employers and customers using both verbal and written communication.
4. Students will be able to produce clear, concise purposeful and grammatically correct written documents.

Program Coursework and Assessment	Knowledge Area: Equine Management				
	Understand the fundamentals of an equine management or equine production business and the relationship of equine management in the agriculture industry.	Understand that equine management encompasses people's love for the horse for recreation, entertainment, sport, and work.	Organize and effectively present themselves to prospective employers and customers using both verbal and written communication.	Produce clear, concise purposeful and grammatically correct written documents.	Meets another Program level outcome
Course/Program Outcome	1	2	3	4	
AGBS 1700: Western Riding Skills I	X	X		X	AGBS
AGBS 1900: Horse Breaking and Training I	X	X		X	AGBS
AGBS 2700: Western Riding Skills II	X	X	X	X	AGBS
AGBS 2900: Horse Breaking and Training II	X	X	X	X	AGBS

- Blue boxes represent assessment for more than one program.
- Orange boxes represent assessment for this program

Snow College Agriculture Technology/Mechanics Curriculum Map

Summary:

The Agriculture Technology/Mechanics program is currently designed to prepare students with a sound educational background in agriculture technologies and management practices while striving to meet the needs of student goals. The addition of a Certificate of Completion that is stackable into a new AAS in Agricultural Technology/Mechanics the program will expand the scope and credentials of the Agribusiness department and increase the opportunities for students desiring to be involved in the evolving and expanding agriculture technology industry.

Outcomes:

Students who complete an AS with emphasis in Agriculture Technology/Mechanics, or students who complete an AAS in Ag. Technology or Ag. Mechanics should expect the following outcomes from the program:

1. Are familiar with current theories and processes in planning, analyzing, and directing an agriculture business.
2. Are confident in expressing ideas and organizing ideas into presentations and able to interact with others.
3. Be able to produce clear, purposeful and grammatically correct written documents.
4. Know fundamental use of computers in an agriculture business management using spreadsheets, accounting software and basic agriculture business analysis software.

Program Coursework and Assessment	Knowledge Area: Agriculture Technology/Mechanics				
	Are familiar with current theories and processes in planning, analyzing, and directing an agriculture business.	Are confident in expressing ideas and organizing ideas into presentations and able to interact with others.	Be able to produce clear, purposeful and grammatically correct written documents.	Know fundamental use of computers in an agriculture business management using spreadsheets, accounting software and basic agriculture business analysis software.	Meets another Program level outcome
Course/Program Outcome	1	2	3	4	
AGTM 1050: Farm Machinery Maintenance, Management and Operation		x		x	AGTM/AGBS
AGTM 1210: Small Engines Power Systems	x	x			AGTM/AGBS
AGTM 1330: Chemicals and Applications	x	x	x		AGTM/AGBS
AGTM 2500: Irrigation Systems, Equipment, Maintenance and Repair		x	x	x	AGTM/AGBS
AGTM 2600: Drones in Agriculture and Associated Computer Applications	x	x	x	x	AGTM/AGBS
AGBS 1100: Ag Business Career Exploration					AGTM/AGBS
GEO 1700: Fundamentals of GPS and GIS	x	x		x	AGTM/NR
BUS 1020: Computer Technology and Applications			x	x	AGTM/AGBS/BUS

- Blue boxes represent assessment for more than one program.
- Orange boxes represent assessment for this program

Snow College Farm & Ranch Management Curriculum Map

Summary:

Snow College offers a Farm/Ranch Management program to assist farm/ranch families in achieving their business and personal goals by improving the profit- ability of their business.

The program teaches farmers and ranchers to keep detailed computerized financial and production records and to use these records in making timely and intelligent business decisions. Some computer literacy is also taught. The focus is on education and not merely a "bookkeeping service."

Management of a farm/ranch is primarily a decision-making process. To be successful in management and decision-making processes, the course is composed of various units taught in an organized sequence. Approximately 135 contact hours are required to complete the program.

Outcomes:

Students who complete courses in Farm/Ranch Management will be expected to demonstrate that they:

1. Can post income and expenses to the accounting system using the chart of accounts.
2. Able to reconcile their accounting system with their monthly back statements.
3. Create a profit and loss statement.
4. Able to generate and maintain an accurate balance sheet.
5. Students will recognize the need for both financial and non-financial records.
6. Apply financial and production records in decision making.
7. Understand the principle purpose of financial statements in obtaining loans and providing information for income taxes.
8. Develop a budget and monitor actual to budget income and expenses.
9. Students will demonstrate their ability to perform a complete business analysis.
10. Students will be able to keep and analyze all whole farm and enterprise financial records.
11. Benchmark their production and financial benchmarks.

Program Coursework and Assessment	Knowledge Area: Farm & Ranch Management											
	Can post income and expenses to the accounting system using the chart of accounts.	Able to reconcile their accounting system with their monthly bank statements.	Create a profit and loss statement.	Able to generate and maintain an accurate balance sheet.	Recognize the need for both financial and non-financial records.	Know how to apply financial and production records in decision making.	Understand the principle purpose of financial statements in obtaining loans and providing information for income taxes.	Develop a budget and monitor actual to budget income and expenses.	Demonstrate their ability to perform a complete business analysis.	Keep and analyze all whole farm and enterprise financial records.	Benchmark their production and financial benchmarks.	Meets another Program level outcome
Course/Program Outcome	1	2	3	4	5	6	7	8	9	10	11	
FRM 2010: Farm/Ranch Management I	X	X	X	X								FRM
FRM 2020: Farm/Ranch Management II					X	X	X					FRM
FRM 2030: Farm/Ranch Management III								X	X			FRM
FRM 2040: Farm/Ranch Management IV										X	X	FRM

Blue boxes represent assessment for more than one program.
Orange boxes represent assessment for this program

Snow College
Allied Health/Nursing Program Review

representing courses taught in Certified Nursing Assistant, Practical Nursing, and Registered Nurse
Ag Technology/Mechanics and Farm/Ranch Management

submitted to Snow College Board of Trustees and the
Utah State Board of Regents
Summer 2019

Reviewed by ACEN Fall Semester 2018 with the rating of recommended (see attached accreditation letter)

Reviewers

- Marsal P. Stoll, EdD, MSN, Chief Executive Officer for the Accreditation Commission for Education in Nursing.
- Sandra Baker, Peer Evaluator for the Accreditation Commission for Education in Nursing
- Melissa Copperwheat, Peer Evaluator for the Accreditation Commission for Education in Nursing

Program Description

Nursing is an exciting career field that offers a variety of interesting opportunities. Being able to work in diverse work settings, having flexible hours, and the chance to travel the world are some of the opportunities that a nurse has. Nurses also can make a difference in people's lives by the caring and compassionate services they provide, making this a very satisfying career.

Not only is nursing very rewarding it is also one of the fastest growing occupations in the U.S. There is a greater need in the nation, and across the world, to hire nurses than any other healthcare worker. According to the Bureau of Labor Statistics, the job outlook for Practical and Registered Nurses are projected to grow 12+% faster than the average occupation. Nursing is a prestigious and in-demand profession that offers good earning potential and job security.

The Snow College Allied Health Department offers CNA, PN, and PN-RN programs. These programs develop the critical thinking skills necessary to be successful and provide opportunities to engage in the community and with patients. The nursing department also has a state-of-the-art lab facility on the Richfield and Ephraim campuses to give students a hands-on experience that is essential for a well-rounded education. The nursing department is committed to a thorough education that will enable students to have a successful career and be caring providers.

Mission Statement

The Mission of Snow College Allied Health Department is threefold:

- To educate students for health care fields.
- To inspire them to love learning.

- To lead them to serve others.

Through quality instruction the Allied Health Department also facilitates the development of integrity, responsibility, a desire for life-long learning, and a commitment to community services as health care providers.

The Snow College Allied Health department offers courses of study in the following entry-level health-related occupations:

- Registered Nurse (PN-RN)
- Practice Nurse (LPN)
- Nursing Assistant (CNA)

There are also several degree pathways to assist students such as Practice Nursing Certificate, RN/ASN degree, Pre-Dental Hygiene, Pre-Medical/Pre-Dental, Pre-Occupational Therapy, Pre-Pharmacy, and Pre-Physical Therapy.

Nursing Assistant/Home Health Aide

Certified Nursing Assistant positions are available at hospitals, home health care centers, and long term care facilities.

Applicants for certified nursing assistant (CNA) training are required to complete an academic training course. For those who want to practice in Utah, you need to complete at least 80 hours or more to be eligible for a Utah CNA license. All states in the country divide their CNA training programs into two parts. These portions are the clinical and classroom training. CNA trainees will need to have clinical experience as part of the requirements for a Utah CNA license.

The clinical part of the CNA training is usually more intense and requires an untiring physical energy. The written or the classroom training will help prepare the students for the physical and mental requirements of a CNA clinical training as well as the actual CNA role in the real world.

The Snow College CNA class is 1 semester. Classes are 80 hours of lecture and 40 hours of clinicals. This course is offered on the Richfield and Ephraim campus as well as our outreach sites: Delta, Fillmore, Nephi, Piute, and Wayne.

Practical Nursing

The Practical Nursing program offers the students a Certificate of Completion in Practical Nursing and eligibility to take the State Board Examination leading to licensing as a Practical Nurse in Utah. The Snow College Practical Nursing program is designed to qualify as the first year of the RN program.

Acceptance into the LPN program is based on a point system. Students must apply to be accepted into the program. We accept up to 45 students; all 45 students are filled from the same application pool. Classes will be held at the Snow College Richfield Campus, Ephraim Campus and the Nephi Campus using video conferencing technology and live instruction. Each classroom has microphones allowing students from

each campus to participate in all lectures and discussions. Students from all campuses will travel about six times a month to these different sites for labs and activities.

Licensed Practical Nurses may find career opportunities in such places as doctors' offices, hospitals, home health care facilities, and long-term care facilities.

The practical nursing program is accredited by the Accreditation Commission for Education in Nursing, Inc. (ACEN).

Registered Nursing Program

Snow College RN program is a 1 plus 1 nursing program. Students will first receive a Practical Nursing Certificate. Students then enter the PN-RN program where they receive an Associate of Science in nursing which allows them to take the RN-NCLEX exam.

Acceptance into the PN-RN program is based on a point system. Students must apply to be accepted into the program. We can accept up to 40 students; all 40 students are filled from the same application pool. Current Snow College LPN students will have the opportunity to transfer directly into the PN-RN program if all qualifications are met; an application is still required for those who are interested in transferring to ensure qualifications. Students must submit a PN-RN application by the March 1st deadline.

Classes will be held at the Snow College Richfield Campus and Ephraim Campus. Caring instructors teach concurrently by live instruction and video conferencing, allowing students from both campuses to participate in all lectures and discussions. Students are required to travel occasionally to meet as a group at one campus for labs and other activities.

Snow College's RN program is accredited from the Accreditation Commission for Education in Nursing Inc. (ACEN).

2018 Allied Health Faculty Profile

Faculty Name	FT/PT	Date of Initial Appointment	Rank	Bachelor Degree	Institution Granting Degree	Graduate Degree	Institution Granting Degree	Area of Clinical Expertise	Academic Teaching and Other Responsibilities
Dean Brereton	FT	Aug 2006	Assistant Professor	BSN 2006	University of Phoenix	MSN 2010	Western Governor's University	Emergency Nursing, Rural nursing,	NURP 1101, 1115, 2114, 2115, 2280, 2290. Supervises

								Military education	skill pass offs in lab. Disaster Planning Committees.
Debi Sampson	FT	Jan. 2009	Assistant Professor	BSN 2006	Weber State University	MSN 2012	Walden University	Rural nursing, Geriatric, pediatric, Critical Care Nursing	NURP 1114, 1115, 2115 Teaching Technology Committee
Cyndi Jorgensen	FT	August 2013	Instructor	BSN 1998	Weber State University	MSN 2002	University of Phoenix	Rural nursing, Maternity, CEUs in Mental Health and Pharmacology	NURP 2130, 2180, 2280, 2290 Supervises skills pass offs in lab Wellness and Social Committees
Joy Korth	FT	July 2015	Instructor	BSN 2011	Weber State University	MSN 2015	Weber State University	Medical/ Surgical Home Health	NURP 1103, NURP 2214, and assist as needed
Bridget Bennett	FT	August 2014	Instructor	BSN 2007	University of Phoenix	MSN est. date	University of Phoenix	Maternity, Emergency and Medical/ Surgical	Simulation Lab. Assists with other lab activities

Students (inclusive of all programs and degree types)

	2014	2015	2016	2017	2018
Number of Graduates	97	105	102	88	79
LPN Certificates	39	40	34	31	33
Associate Degrees	29	37	37	22	15
Associate of Science-Nursing Degrees	29	28	31	35	31

Bachelor's Degrees	NA	NA	NA	NA	NA
Master's Degrees	NA	NA	NA	NA	NA
Doctoral Degrees	NA	NA	NA	NA	NA

Number of Students	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Total Headcount	210	210	231	264	291
Total Declared Majors	140	124	130	158	214
Total Department FTE	108.9	88.0	98.9	99.1	111.4
Total Department SCH	1633.0	1320.0	1484.0	1486.2	1670.6
Student FTE/Faculty FTE	11.8	10.5	11.2	11.0	12.0

Program Support

Cost	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Direct Institutional Expenditures	$1,090,728	$1,090,022	$917,712	$1,127,940	$911,142
Cost Per Student FTE (Annualized)	$10,019	$12,387	$9,276	$11,384	$8,181
Funding:					
Appropriated Fund	$1,090,728	$1,090,022	$917,712	$1,127,940	$911,142
Other:					
Special Legislative Appropriation	NA	NA	NA	NA	NA
Grants of Contracts	NA	NA	NA	NA	NA
Special Fees/Differential Tuition	NA	NA	NA	NA	NA

Advisory Committee

Advisory Committee Member *	Position	Facility Represented	County
Cami Blackham, MSN, RN	Nurse Administrator	Sevier Valley Medical Center	Sevier
Carrie Curtis RN	Nurse Manager	Sevier Valley Dialysis	Sevier
Brenda Bartholmew, MSN, RN	Director of Nursing	Gunnison Valley Hospital	Sanpete
Randy Allinson BSN, RN	Chief Nursing Officer	Central Valley Hospital	Juab
Paul Blad MPA, RN	Nurse Administrator	Fillmore Medical Center	Millard
Ryan Robison, MBA, BSN	Nurse Administrator	Sanpete Medical Center	Sanpete
Jeffery Christensen MBA	Administrator	Centerville Care Center	Sanpete

Angel Roundy MBA, BSN	Nurse Administrator	Intermountain Homecare	Sevier/Sanpete
Dixie Rasmussen CNM	Nurse Midwife	Mountain Utah Family Medicine	Sevier
Lisa Vellinga BSN, RN	Registered Nurse	Sevier Valley Medical Center	Sevier
Megan Jewkes BSN, RN	State C.N.A. Skills	Utah Valley Hospital	Sevier
Lori Thornton LPN	Staff Development Coordinator and Assistant DON	Richfield Rehabilitation Center	Sevier
Vickie Gurney RN	RN Administrator	At Home Care	Sevier
Laurie Miller FNP-BC	Nurse Practitioner	Main Street Clinic Manti	Sanpete
Kelly Carter	Office Manager	IHC Physician Division	Sevier
Jason Okerlund FNP	Nurse Practitioner	Monroe Clinic	Sevier/Sanpete
Sue Hilderbrand MSN, RN	Division Director of Community Health Services	Central Utah Public Health	Six Country Area
Tyler Juluson ADN	Administrator	Stonehenge	Sevier
Angie Merchant RN CDE	Manager	Gunnison Homecare	Sanpete
Alicia Hone LPN	Licensed Practical Nurse	Centerville Care Center	Alumnus
Caitlin Miller RN	Registered Nurse	Utah Valley Regional Medical Center	Alumnus
David Collings LPN	Licensed Practical Nurse	Sevier Valley Medical Center	Current student
Elizabeth Simmons RN	Registered Nurse	Unknown	Alumnus
Kirsten Weber RN	Registered Nurse	Richfield Rehabilitation Center	Alumnus
Natalie Howlett LPN	Licensed Practical Nurse	Central Valley Hospital	Alumnus
Heidi Olsen RN	Registered Nurse	Unknown	Alumnus
Current Elected RN Presidency Member	Unknown currently		Current Student
Current Elected PN Presidency Member	Unknown currently		Alumnus

**Full and part-time faculty not listed all are invited to attend Advisory Board Meeting.*

Snow College Student Support Services

Support Services	Location	Staff	Services Provided	Website Links
Admissions Office Cont. Admissions Office	Ephraim: Richfield: Available by telephone or on-line	*Admission Advisors* Shane Jonson, B.S. 435.851.4472 Ashley Beyeler, A.S. 801.367.4543 Nikki Elizabeth, B.S. 435.283.7158 Jeff Savage, A.S. 435.283.7159 *Admission Advisor* Heidi Stringham, B.A. 435.896.8202	Aid all students who desire to complete undergraduate studies at Snow College, including entering freshman, transfer students, non-degree seeking and international students	https://www.snow.edu/admissions/index.html *All web links are the same for both campuses.
Center for Student Success	Ephraim:	Academic Advisors Susan Larsen, M.S. Director Andrew Nayor, M.Ed. Laura Adams, M.S. Jeanne Tripp, B.S.	Provides program, services and facilities designed to enhance the academic performance and success of Snow College students and to help students in planning and completing their academic career. These services can include tutoring, supplemental instruction and summer	https://www.snow.edu/offices/advisement/craniumcafeadvisors.html

	Richfield:	Jan Cragun, B.S. Katie Jean Larsen, M.S. Jacquelyn Beck AAS Academic Advisors Clifford Whatcott, M.S.W. Cynthia Avery, B.S.	bridge programs. Students can visit on site or on-line. Students need to call for appointments 435-283-7313 or can complete the Pre-Advisement online, that will prepare the student to interact with a student success advisor in person, or through Cranium Cafe (by online video conferencing/Chat), or via email.	
Office of Student Financial Aid	Ephraim/ Richfield	All available online see URL: or Student may call Jack Dalene, B.S. 435-283-7313 Fax: 435-283-7134	Aids prospective and current students at Snow College. Their commitment is to assist students to pay for their education. It is a need-based program. Federal Student Aid program includes grants, work study and loans	https://www.snow.edu/offices/finaid/index.html
Registration and Records	Ephraim / Richfield	Services are available at both campuses and online. Students can call 435-283-7230 Or students can Ask Buster on-line. The instant message will be answered within 24 hours.	Aids with registration and enrollment, maintains academic records, issues transcripts, prepares degree audits, certifies candidates for degrees, prepares diplomas, provides statistics, produces schedule of classes.	https://www.snow.edu/offices/registrar/Registration_Info_Policies_TOC.html
Student Counseling	Ephraim/ Richfield	Students may contact the Counseling and Wellness Center in	The Snow College Counseling center provides students with timely and effective	https://www.snow.edu/studentlife/wellness/index.html

		the Social Science Building room #109 from 8:00 AM to 4:00 PM, Monday through Friday. The Hotline is open daily from 7PM to Midnight Allen Riggs, CMHC Allen.riggs@snow.edu or 435-283-7125 Yasmin Heywood AMHC Carra Ward B.S.	mental health services related to trauma, abuse, grief and loss that allows them to improve and maintain their mental well-being and therefore to meet their education goals. Students can talk to a mentor anonymously by phone or text. The mentor can help them set up an appointment to meet with the counselor if needed. Text 435-776-5583 or call 435-283-7283	
Help Sessions	Ephraim/ Richfield	Students may contact the Snow College Student Success Office, GSC room # 241 435-283-7324 or via email at - See more at: advisement@snow.edu	Help sessions are a service provided to aid students who need additional support outside of the classroom setting. Each session has a leader, a student that has successfully completed the class or someone currently enrolled in the class and doing very well. Students are required to come to the help session prepared to study. Help sessions have included, biology, math, physiology, chemistry and physical science to name a few.	https://www.snow.edu/offices/advisement/helps.html

Writing Center	Ephraim/ Richfield	Found in the Business Building room # 139 Students can Contact: Dave Peterson Phone: 435-283-7360	The Writing Lab is a state-of-the-art computer lab and peer-tutoring center. Student writers come to the lab to write and revise their papers. Student tutors staff the lab, usually English majors. The writing center assists the students with writing tasks: preparing for writing, reviewing drafts, or edit near-final copies.	https://www.snow.edu/academics/humanities/english/tutoring.html
Director of Students	Ephraim / Richfield	Craig Mathie, M.Ed Vice President for Student Success P.O. Box 1004 Ephraim, UT 435-893-2216 craig.mathie@snow.edu	Advocate for student education, fairness and assures students know and follow policies.	https://www.snow.edu/office/president/staffmembers.html
Library	Ephraim	Library Staff Lynn Anderson Technical Services Librarian lynn.anderson@snow.edu 435-283-7366 James Blackburn, AAS Systems Administrator james.blackburn@snow.edu 435-283-7360 Lisa Dickinson Administrative	The Snow College Library is dedicated to providing an environment where learning occurs. As the intellectual and social center for campus, the library is a place where intellectual communities are formed and where students can find a place for study and creativity. The library serves as a collaborative center for learning and is a leader on campus for state-of-the-art technology for students. The library provides research instruction and quality curriculum supporting information	https://www.snow.edu/library/index.html

		Assistant lisa.dickinson@snow.edu 435-283-7365 McKelle George Library Supervisor mckelle.george@snow.edu 435-283-7363 Lisa Nance Circulation Manager lisa.nance@snow.edu 435-283-7363 Denise Olson Acquisitions Clerk denise.olson@snow.edu 435-283-7367 Jon Ostler Director of Libraries jon.ostler@snow.edu 435-283-7362 Karen Robinson Library Supervisor karen.robinson@snow.edu 435-283-7363	sources in the most appropriate formats. Space, equipment and support are provided for student projects. The library provides several services to help the student through "Ask Librarian" https://www.snow.edu/library/ask_a_librarian.html The student can ask the librarian a question through e-mail and they will respond as soon as they can. Also available is "Text A Librarian" https://www.snow.edu/library/text_a_librarian.html The student can text 66746 a quick question of not more than 160 characters and will receive a prompt response if done during current texting hours. Texting Hours Mon. – Thurs. 8 A.M – 11 PM Fridays 8 A.M. – 5 P.M. Saturday 12 P.M. – 6 P.M. Sunday 5 P.M. – 11 P.M.	

	Richfield	Koriann Workman Catalog/Serials Clerk korrian.workman@snow.edu 435-283-7364 Jackie Jackman Circulation Manager (Richfield) jackie.jackman@snow.edu 435-893-2219 Tonia Lewis Circulation Manager (Richfield) tonia.lewis@snow.edu 435-893-2219 Kim Ogden Library Supervisor (Richfield) kim.ogden@snow.edu 435-893-2219 Michelle Olsen Richfield Campus Librarian michelle.olsen@snow.edu 435-893-2238		

College Bookstore Ephraim Location Regular Hours Mon. – Thurs. 9 a.m. – 4 p.m. Saturday: Open select Saturdays Sunday: Closed Richfield Location Regular Hours Mon. – Thurs. 8:30 a.m. – 3:45 p.m. Saturday and Sunday Closed *Hours are subject to change with Holidays and special circumstances	Ephraim Greenwood Student Center 250 East College Ave. Ephraim, Utah Richfield Administration Building Rm. #146 800 W. 200 N Richfield, Utah	Jeana Cheney Manager 435-283-7211 Heidi Curtis Director 435-893-2204	Provides textbooks, magazines, general supplies and gifts. Students may contact the bookstore directly by e-mailing a question or problem to ephriam.bookstore@snow.edu Or Heidi.curtis@snow.edu	https://www.snow.edu/offices/bookstore/index.html Or http://www.bkstr.com/snowstore/home/en?cm_mmc=Redirect-_-VanityURL-_-snow.bkstr.com-?-10107 Or https://www.snow.edu/offices/bookstore/richfield.html
Accessibility Resource Center	Ephraim / Richfield	ADA Coordinator 435-283-7321 to set up an in-person appointment	This center is designed to provide all individuals with disabilities, as defined by the Americans with Disabilities' Act (ADA) appropriate academic adjustments, reasonable	https://www.snow.edu/general/ADA/index.html

			accommodations, and or auxiliary aids where necessary to allow equal opportunity to participate and enjoy the benefit of services, programs and activities conducted by Snow College. All Nursing Student handbook and Syllabus also contain information on this important matter.	
Career Badger Career Services	Ephraim / Richfield	Lisa Laird 435-893-2221 lisa.laird@snow.edu	Career center assists with selecting a major, developing a resume, internships, career fairs, on-campus interviews, and candidate referrals. Goal is to prepare students/alumni to make career decision to find related employment and to meet workplace expectations.	https://www.snow.edu/offices/careerbadger/index.html
IT Help Desk	Ephraim / Richfield	Create a help ticket at http://helpdesk.snow.edu/portal Or if immediate attention is needed students are encouraged to call 435-283-7088	Help desk assistants are designed to assist student with operating systems, installing software to hardware replacement. They can be found in the third floor of the Lucy Phillips building between 8 a.m. to 10 p.m. Mon. through Thursday or 8 a.m. to 7 p.m. on Fridays.	https://www.snow.edu/offices/it/index.html
Student Life	Ephraim / Richfield	Includes the following departments:	Student Life is a program that encourages students to participate in activities and organizations that complement the	https://www.snow.edu/studentlife/index.html

		Student body Advocates *Clubs* *New Student Orientation* *Multi-cultural Center* *Transportation*	college's academic program by providing opportunities for leadership development, pursuit of special interest, social interaction and student engagement. Student body advocates encourage students to make suggestions and this can be done on-line at https://www.snow.edu/studentlife/studentlife_office/suggestion.html	
Testing Centers Ephraim Regular Hours Mon. thru Thurs. 9 a.m. – 1030 p.m. Friday 9 a.m. – 7 p.m. Saturday 12 p.m. – 4 p.m. Sunday 5 p.m. – 9 p.m. Richfield Regular Hours	Ephraim Location: Lucy Phillips Building 250 East Center St. Ephraim, UT	Danon Jones Director 435-283-7197 danon.jones@snow.edu	The testing center supports the testing needs of faculty, students, staff, and guests. They strive to meet those needs by providing a wide variety of testing services and maintaining a secure testing environment.	

Mon. – Thurs. 8 a.m. – 9 p.m. Friday 8 a.m. – 3 p.m. Saturday 9 a.m. – 3 p.m. Sunday Closed	Location: 200 S. 800 W. Modular Building #1 Richfield, UT	Elizabeth Crazier Director 435-893-2239 Elizabeth.cazier@snow.edu		
Veteran Services	Ephraim / Richfield Office located on Ephraim Campus Greenwood Student Center Room 206	Contact Jack Dalene 435-283-7130 or jack.dalene@snow.edu	Snow College supports students who have served in our country's armed forces. The Veterans Educational Benefit office provides assistance to veterans and qualified dependents of disable or deceased veterans.	https://www.snow.edu/offices/veteran_services/index.html
Housing	Ephraim 748 beds available on campus Richfield No on campus housing	435-283-7280	Snow College offers affordable housing 1/3 to 1/2 less the cost of other higher education institutions in the state. Daily tours offered Monday through Friday 11:30 AM to 3:30 PM.	https://www.snow.edu/offices/housing/index.html
Food Services Ephraim	located in the	Ephraim sites: Annette Taylor 435-283-7270	Badger Bucks can be used in the Badger Den and Buster Bistro. Students staying in a non-cooking room in	https://www.snow.edu/offices/food_services/plans.html

Badger Den Hours: Monday-Friday 8:00 AM-7:00 PM Saturday and Sunday 5:00PM-7:00PM Buster Bistro Hours: Monday-Thursday 11:00 AM-9:00 PM Friday 11:00 AM-5:00 PM Richfield Snow College Richfield Book store Hours: Mon. – Thurs. 8:30 AM – 3:45 PM Saturday and Sunday Closed	Greenwood Center located in the Karen H Huntsman Library Located in the Administration Building	 Richfield site: Heidi Curtis 435-893-2204	student housing are required to purchase a meal plan with the housing contract. Bookstore provides a pop machine and quick cook foods that can be cooked in a microwave.	

At the nursing program level, a target approach is used to support the students. Each new student is required to attend RN student orientation or LPN student orientation held prior to the first day of the semester. Students and faculty review policy and procedures that are specific to the nursing program on the orientation day. Nursing students are strongly encouraged to participate in student study groups and are given assignments and projects that require them to work in learning communities.

Nursing Students also receive informal advising from the nursing faculty. If a student either fails an examination with less than 80% or has a test score the student is not satisfied with, he/she may request an appointment with the instructor individually to review the test and their test preparation methods. Students who continue to show poor results receive continued counseling and additional study support and would eventually follow the grading policy that can be in the student handbook.

In addition to counseling, the nursing program has adopted the Kaplan integrated testing product to use in all didactic courses. Faculty is to oversee the Kaplan testing results and provide reports to the administrator regarding the student's trends and any area of concern.

Student Learning Outcomes

There are ten nursing program student learning outcomes (SLOs), nine of which were developed for the PN program at its inception. The tenth SLO was added at the inception of the RN program after discussion with the advisory board and faculty members in the October 2012 advisory meeting. SLOs were recently modified for clarity and conciseness with the input of all faculty members. Program outcomes, including student performance on licensure exam, program completion, graduate program satisfaction, employer program satisfaction, and job placement rates are found in ACEN Standard 6. Student learning outcomes support the achievement of program outcomes.

Snow College RN Program Purpose and Student Learning Outcomes (SLOs)	National League for Nursing (NLN) Outcomes and Competencies for ASN Programs	Utah Nurse Practice Act and National Council of State Boards of Nursing (NCSBN) Rules	American Nurses Association Scope and Standards of Practice
The Snow College Registered Nursing program will prepare students to sit for and pass the National Council Licensure Examination (NCLEX-RN) of the National Council of State Boards of Nursing (NCSBN). All graduates will earn an Associate of Science degree and be prepared to go directly into the workforce and/or choose to continue to study towards a higher nursing degree.	Associate degree (AD) nursing education provides the basic education necessary to become a registered nurse. Graduates are eligible to sit for the NCLEX-RN examination and, if licensed, may practice in structured care settings, including hospitals, long-term care facilities, clinics, and offices. Associate degree nursing education incorporates nursing knowledge, knowledge of key biological and social sciences, and study of the humanities in a program that typically requires at least two years (65-75 credits) of study in a junior	Upon program initiation in 2013 the program purpose was consistent with the Nurse Practice Act Rule R156-31b-603 (m) which read "the program shall require students to obtain general education, pre-requisite, and co-requisite courses from a regionally accredited institution of higher education, or have in place an articulation agreement with a regionally accredited institution of higher education" (pp. 13-14). The recently revised 2015 Utah Nurse Practice Act has omitted specific nursing education program requirements, granting	"The registered nurse is licensed and authorized by a state, commonwealth, or territory to practice nursing. Professional licensure of the healthcare professional is established by each jurisdiction to protect the public safety and authorize the practice of the profession The registered nurse is educationally prepared for competent practice at the beginning level upon graduation from an accredited school of nursing and qualified by national examination for RN licensure. ANA has consistently affirmed the baccalaureate degree in nursing as the preferred

The student will:	or community college (NLN, 2010, pp. 37-8).	limited approval to programs seeking national accreditation.	educational preparation for entry into nursing practice" (ANA, 2010, p. 14). The Snow College PN to ASN program is aligned with the SUU BSN program.
1. *Apply basic principles from the biological and behavioral sciences and nursing theory to determine nursing actions for individuals and their families in a variety of health care settings.*	Nursing Judgment: Make judgments in practice, substantiated with evidence, that integrate nursing science in the provision of safe, quality care and promote the health of patients within a family and community context (NLN, 2010, p. 38). Both statements read that graduates apply scientific evidence to provide care for patients and families.	This outcome is consistent with the Utah Nurse Practice Act definition 58-31b-102 number 14 which reads, "The practice of nursing requires substantial specialized or general knowledge, judgment, and skill based upon principles of the biological, physical, behavioral, and social sciences (p. 4); and R156-31b-703b of the current Utah Nurse Practice Act Rules, which reads, "An RN shall be expected to: (c) apply nursing knowledge effectively in the synthesis of the biological, psychological, spiritual, and social aspects of the patient's condition" (p. 14).	"The registered nurse is educated in the art and science of nursing, with the goal of helping individuals and groups attain, maintain, and restore health whenever possible" (ANA, 2010, p. 14). "Nursing is a learned profession built on a core body of knowledge that reflects its dual components of science and art. Nursing requires judgment and skill based on principles of the biological, physical, behavioral and social sciences" (ANA, 2010, p. 22).
2. *Participate as a member of a nursing team assigned to complete patient assessments, including planning, implementation, and evaluation of nursing care to assist clients of all ages to meet their functional needs.*	Nursing Judgment: Make judgments in practice, substantiated with evidence, that integrate nursing science in the provision of safe, quality care and promote the health of patients within a family and community context (NLN, 2010, p. 38). Both statements read that graduates make judgments based on the nursing process, which is	This outcome is consistent with the Utah Nurse Practice Act definition 58-31b-102 number 16 which reads, "Registered nursing acts include a) assessing the health status of individuals and groups, b) identifying health care needs, c) establishing goals to meet identified health care needs, d) planning a strategy of care, e) prescribing interventions to implement the strategy of care, f) implementing the strategy of care, g)	"The Standards of Practice describe a competent level of nursing care as demonstrated by the critical thinking model known as the nursing process. The nursing process includes the components of assessment, diagnosis, outcomes identification, planning, implementation, and evaluation. Accordingly, the nursing process encompasses significant actions taken by registered nurses and forms the foundation of the

	based on nursing scientific methodology.	maintaining safe and effective nursing care that is rendered to a patient directly or indirectly, and h) evaluating responses to interventions" (p. 4). This outcome is also consistent with the NCSBN Model Act (p. 2) which reads that "the practice of registered nursing shall include: providing comprehensive nursing assessment of the health status of patients, establishing nursing diagnoses; setting goals to meet identified health care needs, prescribing nursing interventions, and evaluating responses to interventions and the effectiveness of the plan of care."	nurse's decision making (ANA, 2010, p. 9). Participation as a member of a nursing team is supported by ANA Standard 13: Collaboration, which reads "The registered nurse collaborates with healthcare consumer, family, and others in the conduct of nursing practice" (ANA, 2010, p. 11).
3. *Safely implement evidence-based psychomotor skills within the RN scope of practice.*	Nursing Judgment: Make judgments in practice, substantiated with evidence, that integrate nursing science in the provision of safe, quality care and promote the health of patients within a family and community context (NLN, 2010, p. 38). Both statements read that graduates safely care for patients and families.	This outcome is consistent with definition (g) maintaining safe and effective nursing care that is rendered to a patient directly or indirectly, as well as R156-31b-703b, Scope of Nursing Practice Implementation, which reads, in part, "An RN shall be expected to (i) ensure that organizational policies, procedures, and standards of nursing practice are developed, kept current, and implemented to promote safe and effective nursing care" (p. 15). This outcome is also consistent with the NCSBN Model Act (p. 2) which reads that "the practice of	This outcome is consistent with the ANA Standard of Practice 5B, which reads that "the registered nurse employs strategies to promote health and a safe environment" (ANA, 2010, p. 10) and the ANA Standards of Professional Performance 15 and 16, which read, respectively, "The registered nurse utilizes appropriate resources to plan and provide nursing services that are safe, effective, and financially responsible" and "The registered nurse practices in an environmentally safe and healthy manner" (ANA, 2010, p. 11). Page 12 of this document reads, "Skills

		registered nursing shall include: implementing nursing care through the execution of independent nursing strategies, and the provision of regimens requested, ordered or prescribed by authorized health care providers."	include psychomotor, communication, interpersonal, and diagnostic skills."
4. *Use effective communication skills with clients, family members, and health team members.*	Human Flourishing: Advocate for patients and families in ways that promote their self-determination, integrity, and ongoing growth as human beings (NLN, 2010, p. 38). Both statements infer that graduates advocate for patients and families by effectively communicating with or about them.	This outcome is consistent with R156-31b-703b, Scope of Nursing Practice Implementation, which reads, in part, "An RN shall be expected to (a-ii) determine whether, and according to what timeframe, another medical professional, a patient's family member, or any other person should be apprised of a patient's nursing needs; and (k) communicate with other health team members regarding patient choices, concerns, and special needs, including patient status and progress; patient response or lack of response to therapies; and significant changes in patient condition" (pp. 14-15). This outcome is also consistent with the NCSBN Model Act (p. 2) which reads that "the practice of registered nursing shall include: communicating and collaborating with other health care providers in the management of health care."	This outcome is consistent with Standards 5A, Coordination of Care and 11, Communication, which reads that "the registered nurse communicates effectively in a variety of formats in all areas of practice" (ANA, 2010, pp. 11, 40, and 54). It is also consistent with Standard 12, Leadership, the competencies of which read, "The RN develops communication and conflict resolution skills and communicates effectively with the healthcare consumer and colleagues" (ANA, 2010, p. 55). Standard 13, Collaboration, reads that the RN "communicates with the healthcare consumer, the family, and healthcare providers regarding healthcare consumer care and the nurse's role in the provision of that care" (p. 57).
5. *Provide health education for*	Professional Identity: Implement one's role as a	This outcome is consistent with R156-31b-703b,	This outcome is consistent with Standard of Practice

	individuals, families, and peers.	nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving identity as a nurse committed to evidence-based practice, caring, advocacy, and safe, quality care for diverse patients within a family and community context (NLN, 2010, p. 38). Both statements read that graduates implement their roles as nurses by providing health education based on the most recent and accurate scientific evidence.	Scope of Nursing Practice Implementation, which reads, in part, "An RN shall be expected to (m) teach and counsel patient families regarding an applicable health care regimen, including general information about health and medical conditions, specific procedures, wellness, and prevention" (p. 15). This outcome is also consistent with the NCSBN Model Act (p. 2) which reads that "the practice of registered nursing shall include: designing and implementing teaching plans based on patient needs."	5B, Health Teaching and Health Promotion, for which the competencies read that the registered nurse "provides health teaching that addresses such topics as healthy lifestyles, risk-reducing behaviors, developmental needs, activities of daily living, and preventive self-care" and "uses health promotion and health teaching methods appropriate to the situation and the healthcare consumer's values, beliefs, health practices, developmental level, learning needs, readiness and ability to learn, language preference, spirituality, culture, and socioeconomic status" (ANA, 2010, p. 41).
6.	*Demonstrate concern for sociocultural and spiritual values when interacting with clients and health team members in a variety of settings.*	Human Flourishing: Advocate for patients and families in ways that promote their self-determination, integrity, and ongoing growth as human beings (NLN, 2010, p. 38). Both statements read that graduates advocate for patient's values and self-determination based on their spiritual and sociocultural backgrounds.	This outcome is consistent with R156-31b-703b of the current Utah Nurse Practice Act Rules, which reads, "An RN shall be expected to: (c) apply nursing knowledge effectively in the synthesis of the biological, psychological, spiritual, and social aspects of the patient's condition" (p. 14).	This outcome is consistent with several competencies in the Standards of Practice and the Standards of Professional Performance, including number 1, which reads that the registered nurse collects cultural and spiritual data, identifies cultural barriers to effective communication, and honors consumer care preferences (ANA, 2010, p. 32). It is also supported by Standard 3, Outcomes Identification, in which the registered nurse derives culturally appropriate expected outcomes (p. 35), and Standard 4, in which the registered nurse develops a plan

			considering the person's values, beliefs, spiritual and health practices, and culture (p. 36). Standard 5, Implementation, reads that the registered nurse "provides holistic care that addresses the needs of diverse populations across the lifespan, and applies knowledge of cultural diversity in implementing the plan of care (p. 38). Standard 14, Professional Practice Evaluation, reads that the registered nurse provides care in a culturally and ethnically sensitive manner (ANA, 2010, p. 59).
7. *Display responsibility and accountability for his/her nursing care utilizing ethical and legal principles within their scope of practice.*	Professional Identity: Implement one's role as a nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving identity as a nurse committed to evidence-based practice, caring, advocacy, and safe, quality care for diverse patients within a family and community context (NLN, 2010, p. 38). Both statements read that graduates will practice with integrity and responsibility, utilizing ethical principles.	This outcome is consistent with R156-31b-703b, Scope of Nursing Practice Implementation, which reads, in part, "An RN shall be expected to (e) demonstrate appropriate decision making, critical thinking, and clinical judgment to make independent nursing decisions and to identify health care needs and (j) appropriately advocate for patients by respecting patients' rights, concerns, decisions, and dignity" (p. 14).	This outcome is consistent with ANA Standard of Professional Performance 7, Ethics, which reads that the registered nurse practices ethically using *Code of Ethics for Nurses with Interpretive Statements* (ANA, 2015) to guide practice. Other competencies include that the registered nurse "upholds healthcare consumer confidentiality within legal and regulatory parameters; assists healthcare consumers in self-determination and informed decision-making, and contributes to resolving ethical issues" (ANA, 2010, p. 47).
8. *Select appropriate goals for continued self-growth and vocational mobility to achieve his/her full potential.*	Professional Identity: Implement one's role as a nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving identity as a nurse	This outcome is consistent with R156-31b-303, RN License Renewal and Continuing Education (3-a), which reads, "An RN shall complete one of the	This outcome is consistent with the ANA Standard of Professional Performance 8, Education, and 14, Professional Practice Evaluation (pp. 49 and 59).

	committed to evidence-based practice, caring, advocacy, and safe, quality care for diverse patients within a family and community context (NLN, 2010, p. 38). Both statements read that graduates will continue to evolve in their nursing practice.	following during the two-year period immediately preceding the date of application for renewal: (i) licensed practice for not less than 400 hours; (ii) licensed practice for not less than 200 hours and completion of 15 contact hours of approved continuing education; or (iii) completion of 30 contact hours of approved continuing education hours" (p. 6).	"The registered nurse attains knowledge and competence that reflects current nursing practice by participating in ongoing educational activities related to appropriate knowledge bases and professional issues and demonstrating a commitment to lifelong learning." The registered nurse evaluates her or his own nursing practice by engaging in "self-evaluation of practice on a regular basis, identifying areas of strength as well as areas in which professional growth would be beneficial" and taking "action to achieve goals identified during the evaluation process."
9. Provide service to classmates, clients, families, community, and health team members.	Human Flourishing: Advocate for patients and families in ways that promote their self-determination, integrity, and ongoing growth as human beings (NLN, 2010, p. 38). Both statements read that graduates advocate for patients through service.	This outcome is consistent with the Nurse Practice Act definition number 14 which reads, "Practice of nursing means assisting individuals or groups to maintain or attain optimal health, implementing a strategy of care to accomplish defined goals and evaluating responses to care and treatment. The practice of nursing includes a) initiating and maintaining comfort measures, b) promoting and supporting human functions and responses, and c) establishing an environment conducive to well-being" (p. 3). This outcome is also consistent with the NCSBN Model Act (p. 2) which	In the section on caring and nursing practice (ANA, 2010, p. 25), it reads that the essence of nursing practice is caring. "Swanson (1993) builds on Watson's framework and described five caring processes and specific techniques for putting them into practice. They are "a) maintaining belief in persons and their capacity to make it through events and transitions, b) striving to understand an event as it has meaning in the life of the other, c) being emotionally present with the other, d) doing for the other what they would do for themselves if it were possible, and e) facilitating the other's passage through life transitions and

		reads that "the practice of registered nursing shall include: advocating the best interest of patients."	unfamiliar events" (page 25 and 26). Service to colleagues, clients, their families, and the community is an integral component of caring, which is the foundation of nursing practice.
10. *Display leadership abilities through application of management principles, critical thinking, delegation, and prioritization of care.*	Spirit of Inquiry: Examine the evidence that underlies clinical nursing practice to challenge the status quo, question underlying assumptions, and offer new insights to improve the quality of care for patients, families, and communities (NLN, 2010, p. 38). Both statements read that graduates will lead the professional of nursing by using critical thinking.	This outcome is consistent with the Nurse Practice Act definition number 14 which reads, "Practice of nursing includes (g) delegating nursing interventions that may be performed by others and are not in conflict with this chapter." This outcome is also consistent with definition number 16 which reads, "Registered nursing acts include (j) managing and supervising the practice of nursing" (p. 3). This outcome is also consistent with R156-31b-703b, Scope of Nursing Practice Implementation (2), which reads, "An RN shall be expected to (l) demonstrate the ability to responsibly organize, manage, and supervise the practice of nursing by (i) delegating tasks in accordance with these rules and applicable statues; and (ii) matching patient needs with personnel qualifications, available resources, and appropriate supervision" (pp. 14-15). This outcome is also consistent with the NCSBN Model Act (p. 2) which reads that "the practice of registered nursing shall	Standard 12, Leadership, reads that the registered nurse demonstrates leadership in the professional practice setting and the profession. Competencies include that the registered nurse "oversees the nursing care given by others while retaining accountability for the quality of care given to the healthcare consumer" (ANA, 2010, p. 55). Under Standard 15, Resource Utilization, the registered nurse "delegates elements of care to appropriate healthcare workers in accordance with any applicable legal or policy parameters or principles" (p. 60). Under Standard 5A, Coordination of Care, the registered nurse "manages a healthcare consumer's care in order to maximize independence and quality of life" (p. 38).

		include: delegating and assigning nursing interventions to implement the plan of care."	

The curriculum incorporates the current a) National League for Nursing (NLN) ASN outcomes and competencies, b) Utah Nurse Practice Act and Rules requirements for nursing education, c) National Council of State Boards of Nursing (NCSBN) Model Act, and (d) American Nurses Association (ANA) Scope and Standards of Practice. The NLN competencies may be found in the latest publication of Outcomes and Competencies for Graduates of Practical/Vocational, Diploma, Associate Degree, Baccalaureate, Master's, Practice Doctorate, and Research Doctorate Programs in Nursing (NLN, 2010). The NLN publication referenced above will be present in the DDR. A printed copy of the Utah Nurse Practice Act and Rules will be available in the DDR. A printed copy of the NCSBN Model Act will be available in the DDR. A printed copy of the ANA Scope and Standards of Practice will be available in the DDR. Please see Table 4.1.2, which lists the ten RN program student learning outcomes (SLOs) and delineates how they are consistent with established professional standards, guidelines, and competencies. Note: (DDR was a display and document room where resources were provided for on-campus reviewers.)

The following table provides the percentage of students' feelings that respective SLOs where met/not met. Data was taken from four distinct nursing courses.

Student Learning Outcomes Course Reviews 2014-2015
(26/28 students responded Questionnaire was met/not met for each SLO)

Students asked Met/Not Met 26/28 students completed evaluation (93% response rate) Ephraim Campus – 10/11 completed evaluation (91% response rate) Richfield Campus – 16/17 completed evaluation (94% response rate)				
Student Learning Outcome	Course NURP 2180	Course NURP 2280	Course NURP 2190	Course NURP 2290
1. Apply basic principles from the biological and behavioral sciences and nursing theory to determine nursing actions for individuals and their families in a variety of health care settings.	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%
	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%
	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%
2. Participate as a member of a nursing team assigned to complete patient assessments, including planning, implementation, and	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%

evaluation of nursing care to assist clients of all ages to meet their functional needs.	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%
	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%
3. Safely implement psychomotor skills within the RN scope of practice	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%
	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 94%	Richfield – Met 100%
	Overall – Met 100%	Overall – Met 100%	Overall - Met 96%	Overall Met 100%
4. Use effective communication skills with clients, family members and health team members.	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%
	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%
	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%
5. Provide health education for individuals, families, and peers.	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%
	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%
	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%
6. Demonstrate concern for sociocultural and spiritual values when interacting with clients and health team members in a variety of settings.	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%
	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%
	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%
7. Display responsibility for his/her nursing care utilizing ethical and legal principles within their scope of practice.	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%
	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%
	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%
8. Select appropriate goals for continued self-growth and vocational mobility to achieve his/her full potential.	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%
	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%
	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%	Overall – Met 100%

9. Provide service to classmates, clients, families, community, and health team members.	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 90% (1 student did not respond to this question)	Ephraim – Met 100%
	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 100%
	Overall – Met 100%	Overall – Met 100%	Overall – Met 96%	Overall – Met 100%
10. Display leadership abilities through application of management principles, critical thinking, delegation, and prioritization of care.	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%	Ephraim – Met 100%
	Richfield – Met 100%	Richfield – Met 100%	Richfield – Met 94%	Richfield – Met 100%
	Overall – Met 100%	Overall – Met 100%	Overall – Met 96%	Overall – Met 100%

This table presents the student learning outcomes assessment results extracted rom end of program evaluations.

Student Learning Outcomes End of Program Evaluations

Likert Scale: 1 Excellent, 2 Very Good, 3 Good, 4 Fair 5 Poor –			
SLOs	2013/14 Graduates – 30/30 responded – 100% response rate	2014/15 Graduates – 24/28 responded – 85.7% response rate Ephraim – 10/11 – 90.0% Richfield – 14/17 – 82.3%	Combined Years Average 54/58 responded 93.1% response rate
1. Apply basic principles from the biological and behavioral sciences and nursing theory to determine nursing actions for individuals and their families in a variety of health care settings.	Ephraim – 1.58	Ephraim – 2.10	Ephraim – 1.84
	Richfield – 1.61	Richfield – 1.79	Richfield – 1.70
	Overall – 1.60	Overall – 1.92	Overall – 1.76
2. Participate as a member of a nursing team assigned to complete patient assessments, including planning, implementation, and evaluation of nursing care to assist clients of all ages to meet their functional needs	Ephraim – 1.50	Ephraim – 2.10	Ephraim – 1.8
	Richfield – 1.44	Richfield – 1.79	Richfield – 1.62
	Overall – 1.47	Overall – 1.92	Overall – 1.70

3. Safely implement psychomotor skills within the RN scope of practice.	Ephraim – 1.50	Ephraim – 2.10	Ephraim – 1.80
	Richfield – 1.44	Richfield – 1.79	Richfield – 1.62
	Overall – 1.47	Overall – 1.92	Overall – 1.70
4. Use effective communication skills with clients, family members and health team members.	Ephraim – 1.33	Ephraim – 2.10	Ephraim – 1.72
	Richfield – 1.47	Richfield – 1.79	Richfield – 1.70
	Overall – 1.41	Overall –1.92	Overall – 1.67
5. Provide health education for individuals, families, and peers.	Ephraim - 1.42	Ephraim – 2.10	Ephraim 1.76
	Richfield - 1.61	Richfield – 1.79	Richfield – 1.70
	Overall – 1.53	Overall – 1.92	Overall – 1.73
6. Demonstrate concern for sociocultural and spiritual values when interacting with clients and health team members in a variety of settings	Ephraim – 1.67	Ephraim – 2.10	Ephraim – 1.89
	Richfield – 1.78	Richfield – 1.79	Richfield – 1.79
	Overall 1.73	Overall – 1.92	Overall – 1.83
7. Display responsibility for his/her nursing care utilizing ethical and legal principles within their scope of practice.	Ephraim – 1.67	Ephraim – 2.10	Ephraim – 1.89
	Richfield – 1.56	Richfield – 1.86	Richfield – 1.71
	Overall – 1.60	Overall – 1.96	Overall – 1.78
8. Select appropriate goals for continued self-growth and vocational mobility to achieve his/her full potential.	Ephraim – 1.50	Ephraim – 2.10	Ephraim – 1.80
	Richfield – 1.61	Richfield – 1.86	Richfield – 1.74
	Overall – 1.57	Overall – 1.96	Overall – 1.77
9. Provide service to classmates, clients, families, community, and health team members.	Ephraim – 1.50	Ephraim – 2.10	Ephraim – 1.80
	Richfield – 1.56	Richfield – 1.79	Richfield – 1.68
	Overall – 1.53	Overall – 1.92	Overall – 1.73
10. Display leadership abilities through application of management principles, critical thinking, delegation, and prioritization of care.	Ephraim – 1.50	Ephraim – 2.20	Ephraim – 1.85
	Richfield – 1.56	Richfield –1.79	Richfield – 1.68
	Overall – 1.53	Overall – 1.92	Overall – 1.73

The 2014-2015 End of Program Survey did increase in value with the average of Ephraim students stating very good instead of excellent; however, no negative qualitative data was provided and through discussions with students it was found that there was confusion about the Likert scale. Students had completed another evaluation that had a different Likert scale. Students answered the survey using the same scale as the previous survey. It is felt that the overall findings on the survey are skewed. SLOs will be evaluated again in the alumni survey. It was also observed that all of the SLOs were stated as being met through the course evaluations.

Pass rates on the NCLEX-RN licensure exam have increased over the past two years. The program only has two graduating classes. This information is provided in the following table.

NLCEX-RN First Time Pass Rates

Program	2014	2015	2-year Average
Ephraim	50% (6/12)	*80.00% (8/10)	65%
Richfield	77.77% (14/18)	88.23% (15/17)	83%
Combined	66.66% (20/30)	*82.1% (23/28)	74.38%
National Associate Degree Pass rate	79.26%	84.25% (2 quarters)	81.76%
National Pass rate	81.78%	86.77% (2 quarters)	84.27%

**2015 one student has not taken the NLCEX exam at this time.*

Currently the first-time pass rate is not at or above the national mean; however, the pass rate is rising. The department made several changes that they feel will help with pass rates.

The expected levels of achievement for program completion is a minimum of 80% of students will graduate from the Snow College PN-RN program in 1.5 times the length of the program. This completion rate was determined by the faculty after considering the demographics and looking at the colleges PN program. This is the same expectation for the PN program. Most students that complete the PN continue to the PN-RN program.

The program has only one completion option. The program starts once a year in August and graduates in May. Students attend classes in Ephraim or Richfield. Students have the same faculty members.

Year	Ephraim	Richfield	Overall Program
2013/14	100% (12/12)	100% (18/18)	100% (30/30)
2014/15	100% (11/11)	89% (17/19)	93% (28/30)

The expected level of achievement is that at least 80% of program graduates will be employed within six to twelve months of graduation. There is only one graduating class with job placement results however; an estimated job placement rate for the graduating class of 2014-2015 will be given in the table below. The graduate job placement rate is collected by phone calls to all students and by the RN alumni survey. The area of employment is collected through the RN alumni survey. From the surveys returned, results are compiled and reviewed annually.

Year	Percent Employed
2013/14	87%
2014/15 (estimate July 2015)	75%

Place of Employment	Percent
Hospital	61.11%
Long-term Care	27.78%
Physician's Office	11.11%

The expected level of achievement is based on survey returns at least 80% of employers will agree that they are satisfied with the overall preparation of graduate students. The survey will be sent out six to twelve months after graduation. The program has collected only one year's employer satisfaction survey (see Table 6.4.4.1). The survey was sent out ten to eleven months after the 2013-2014 graduating class. There was a 37.5% (6/16) response rate and not all that responded completed the entire survey. The survey was sent out five times through an electronic data base. The overall response was favorable for 80% of the employers. The program encouraged the Advisory Committee to complete and return surveys. In the future, faculty will continue to encourage employers to complete and return surveys.

RN Employee Satisfaction Survey 2013-2014

	Strongly Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Weighted Average
What is your overall satisfaction with the Snow College graduate(s) that you employ?	0.00%	0.00%	20.00%	0.00%	80.00%	4.60

Program Assessment

Snow College's Allied Health and Nursing program is formally reviewed and accredited by the Accreditation Commission for Education in Nursing (ACEN). ACEN completed a comprehensive visit of the program during the 2017-2018 academic year. Results of this visit affirmed the program's continuing accreditation with the status of conditional and requested a Follow-Up Report be submitted in two years (fall 2020). The next comprehensive evaluation visit is scheduled for Fall 2020.

In accordance with Utah State Board of Regent's policy R411 on the periodic review of educational programs, the Allied Health and Nursing program used the fall 2018 ACEN site visit and review to satisfy all R411 requirements.

Program Recommendations

1. Standard 1 Mission and Administrative Capacity, Criterion 1.8: It was recommended that the program ensure that the nurse administrator has enough time and resources to fulfill role responsibilities.
2. Standard 2 Faculty and Staff, Criterion 2.5: It was recommended that the program ensure the number of full-time faculty is enough for the achievement of the end-of-program student learning outcomes and program outcomes.
3. Standard 4 Curriculum, Criteria 4.3 and 4.7: It was recommended that the program ensure the curriculum is developed by faculty and regularly reviewed to ensue integrity, rigor, and currency. It was further recommended that the program ensure evaluation methodologies reflect established professional and practice competencies and measure the achievement of the end-of-program student learning outcomes.
4. Standard 6 Outcomes, Criterion 6.1 and 6.4: It was recommended that the program ensure strategies are identified when the expected levels of achievement for end-of-program student learning outcomes are not met. It was also recommended that the program continue to provide evidence that there is on-going assessment of job placement and that job placement data are enough to inform program decision-making. It was further recommended that the program demonstrate evidence that the evaluation plan contains data that are consistently assessed job placement and used in program decision-making for the maintenance and improvement of graduate job placement.

Institutional Response: Program faculty and administration are working to address each of these recommendations in lieu of a Follow-Up report to be submitted to ACEN by fall 2020.

Appendix A: Course Requirements Specific to Degree Outcomes

LPN Pre-Application Requirements: Math 0850, 1010, or higher math, or equivalent, current CNA License

Prerequisite Courses		
Course		Credit
BIOL 2320-2325	Human Anatomy with Lab	4
BIOL 2420/2425	Human Physiology with Lab	4
ENGL 1010	Expository Composition	3
GE Course *	General Education Course	3
	Credits	14

1st Fall Semester Course		
Course		Credit
NURP 1102	Fundamentals of Nursing	4
NURP 1103	Pharmacology	3
NURP 1106	Pediatric-Maternity Nursing I	2
NURP 1114	Caring for the Adult I	4
	Credits	13

1st Spring Semester Course		
Course		Credit
NURP 1115	Caring for the Adult II	3
NURP 1107	Pediatric-Maternity Nursing II	3
NURP 1109	Professional Transition for the Practical Nurse	2
PSY 1010	General Psychology	3
CHEM 1110/1115	Elementary Chemistry with Lab	5
	Credits	16

2nd Fall Semester Course		
Course		Credit
NURP 2114	Advanced Nursing Care of the Adult and Child	3
NURP 2214	Advanced Nursing Care of the Adult and Child Clinical	4
NURP 2130	Treatment Modalities	2
ENGL 2010	Intermediate Research	3
GE Course *	General Education Course	3
	Credits	15

2nd Spring Semester Course		
Course		Credit
NURP 2180	Mental Health Nursing Across the Lifespan	2
NURP 2280	Mental Health Nursing Across the Lifespan Clinical	1
NURP 2190	Patient Care Management	2
NURP 2290	Patient Care Management Clinical	3
Math 1030, 1040**, 1050	Introduction to Statistics	3
GE Course *	General Education Course	3
	Credits	14

** GE Requirements: American Institutions, Fine Arts, and Humanities. Three (3) credits each.*

*** Associate Degrees require a qualitative literacy course i.e. Math 1030 or higher; however, students transferring to a BSN or higher nursing program will need Math 1040.*

Appendix B: RN Syllabi

NURP 2114

Division: Business and Applied Technologies
Department: Allied Health
Course: NURP 2114
Title: Advanced Nursing Care of the Adult and Child

Catalog Description:
This course is designed to introduce students to more complex physiological and psychosocial needs of clients across the lifespan and the active role of the registered nurse in health care delivery. The course emphasis is to prepare students to focus on acute illness and conditions, as well as chronic and disabling conditions and establish critical thinking and clinical decision-making for each disease process. This course will reinforce the effects of acute and chronic illness on clients and their families and familiarize students in consulting and collaborating with other members of the multidisciplinary health care team. The course reinforces previously learned concepts and focuses on the registered nurse making nursing judgments timely and applying those appropriate clinical decisions. This course is part of a required series to prepare students to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN).

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 3; Lecture: 3; Lab: 0
Clock/Hour Requirements: 45
Offered for Non-Credit: No
Credit/Clock Comments:
Prerequisites: NURP 1114, NURP 1115, NURP 1106, NURP 1107, or equivalent with an accredited Practical Nursing Program
Corequisites: NURP 2214

Justification:
This course is an important component of the education of registered nurses helping them understand the acute, chronic illness and their effect on client and families they will care for. Components of the Susan Ferguson Service model are incorporated throughout the course. Critical thinking and clinical decision-making for each disease process will be emphasized and assessment, intervention, and evaluations will be reviewed. The course is necessary to provide safe, responsible and competent nursing care. This course provides the basic knowledge and skills that are used in the clinical component for Advanced Nursing Care of the Adult and Child (NURP 2214).

Student Learning Outcomes:
- Upon completion of this course, the students will be able to perform the following nursing competencies within a medical surgical setting:
- Apply and understand the pathophysiological process of each disease or condition
- Demonstrate an understanding of clinical manifestation for each disease or condition
- Demonstrate an understanding of the different manifestations, treatments, and prevention for the different diseases or conditions

- Identify through critical thinking and reasoning critical lab values and how they would relate to the care of the client
- Demonstrate the knowledge to incorporate the nursing process as a framework for the client and their disease process or condition.
- Assessment of student learning outcomes is through written tests, assignments and oral exchange in class. Students receive oral and written feedback.

Content:
Students will develop skills needed to perform responsibly with competence and safety in the health care setting. Students will demonstrate the ability to develop individualized care plans for the client. Students will be taught theory of the above objectives and the disease processes and conditions of primary and secondary health care which include the following areas:

- Urological disorders
- Respiratory disorders
- Cardiovascular disorders
- Neurologic disorders
- Infectious diseases
- Hepatic-biliary disease
- Endocrine disease
- Reproductive system & disorders
- Transplant procedures
- Oncology

Key Performance Indicators:
Student Learning Outcomes will be assessed by the following Key Performance Indicators:

- Assignments 30%- 40%
- Exams 30%-40%
- Final 20%

Overall score of 80% is required in order for the student to continue in the registered nursing program.

Representative Text and/or Supplies:
Pellico, L. H., *Focus on Adult Health: Medical Surgical Nursing*, current edition, Wolters Kluwer LWW, Philadelphia, PA.
Liefer, Gloria, *Introduction to Maternity & Pediatric Nursing*, current edition, Elsevier Saunders, St. Louis, MO.
Pagana, *Diagnostic and Laboratory Test Reference*, current edition, Elsevier Mosby, St. Louis, MO.

Optimum Class Size: 20
Maximum Class Size: 40

NURP 2214

Division: Business and Applied Technologies
Department: Allied Health
Course: NURP 2214
Title: Advanced Nursing Care of the Adult and Child Clinical

Catalog Description:
This is a companion course to NURP 2114 that expands on the learning processes of medical-surgical concepts through clinical application. Students will provide care in a variety of health care settings, functioning as part of a health care team to provide nursing care within the scope of practice as mandated by the Utah State Board of Nursing. A total of 180 hours per semester is required. To enroll, students must be accepted into the Registered Nursing program. This course is part of a required series preparing students to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN). (Additional fee required)

General Education Requirements: N/A
Semesters Offered: Spring
Credit/Time Requirement: Credit: 4; Lecture: 0; Lab: 12
Clock/Hour Requirements: 180
Offered for Non-Credit: No
Prerequisites: NURP 1114, NURP 1115, NURP 1106, NURP 1107, or equivalent with an accredited Practical Nursing Program
Corequisites: NURP 2114

Justification:
This course is designed to provide a clinical setting wherein students may apply knowledge by delivering care to diverse patient populations in various settings.

Student Learning Outcomes:
Upon completion of this course, the students will be able to perform the following nursing competencies within a medical surgical setting.

- Design and incorporate nursing care that reveals knowledge of pathophysiologic concepts and processes for different age groups and cultures.
- Apply science and the latest technology in preparation and executing nursing care.
- Provide caring and ethical nursing.
- Plan and implement nursing care to a variety of ordinary disease processes that reveals knowledge learned.
- Provide safe nursing care to a diverse population.

Assessment of the student learning outcomes is through clinical assignments and the clinical evaluation tool. Oral and written feedback is given after completion of program.

Content:
Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- Review of PN skills

- RN skills
- Role and function of the RN
- Patient teaching, time management, and nurse leadership
- Care of patients experiencing alterations in cardiac function
- Care of patients experiencing alterations in renal function
- Care of patients experiencing alteration in neurological function
- Care of patients experiencing infectious diseases
- Care of patients experiencing alterations in hepatic-biliary function
- Care of patients experiencing alterations in endocrine function
- Care of patients experiencing alterations in hematological function
- Care of patients experiencing transplant procedures
- Care of patients experiencing cancer and metastasis
- Care of patients experiencing alterations in tissue perfusion due to shock, trauma, or other acute physiological compromise

Key Performance Indicators:

- Student Learning Outcomes will be assessed by the following Key Performance Indicators:
- Clinical evaluation and completion of clinical hours 40%-50%
- Complete student reflections, care plan, and critical thinking assignments 20%- 30%
- Case study and comprehensive care plan 10%-20%

Representative Text and/or Supplies:

Pellico, L. H.., *Focus on Adult Health: Medical Surgical Nursing*, current edition, Wolters Kluwer LWW, Philadelphia, PA.
Liefer, Gloria, *Introduction to Maternity & Pediatric Nursing*, current edition, Elsevier Saunders, St. Louis, MO. (text)
NCLEX-RN review textbook as assigned by the course instructor
Drug handbook of choice

Optimum Class Size: 5
Maximum Class Size: 10

NURP 2130

Division: Business and Applied Technologies
Department: Allied Health
Course: NURP 2130
Title: Advanced Nursing Pharmacology and Treatment Modalities

Catalog Description:
This course addresses advanced treatments used by nurses to promote life-long health including pharmacological agents and non-pharmacological therapy treatments like art, music, pet, meditation, visualization, imagery, and validation. It also covers drugs that affect the endocrine system and cardiovascular system, antibiotics, blood products, calcium replacement agents, chemotherapy drugs, anti-Parkinson drugs, IV therapy, prostate drugs, and biological response modifiers. To enroll, students must be accepted into the Registered Nursing program. This course is part of a required series preparing students to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN).

General Education Requirements: N/A
Semesters Offered: Fall
Credit/Time Requirement: Credit: 2; Lecture: 2; Lab: 0
Clock/Hour Requirements: 30
Offered for Non-Credit: No
Prerequisites: NURP 1103 or equivalent with an accredited Practical Nursing Program
Corequisites: N/A

Justification:
The course is an important component of the education of a prospective Registered Nurse who will be expected, in the clinical setting, to administer medications that require advanced knowledge and training. These medications and treatments include those that affect the cardiovascular and endocrine systems, initiating and maintaining IV therapy, administering conscious sedation drugs, antibiotics, anti-Parkinson drugs, chemotherapy drugs, and biologic response modifiers. The prospective RN must also be knowledgeable about alternative therapies such as chiropractic, therapeutic touch, medication, visualization, and relaxation.

Student Learning Outcomes:
Upon completion of this course, the student will be able to:

- Apply the role of the nurse in adjusting care as the patient situation changes and seeking appropriate consultation from a pharmacological perspective
- Analyze cultural considerations in caring for patients and families across a variety of settings and systems that include, but are not limited to, spiritual distress, drug addictions, herbal therapy, and alternative therapies.
- Differentiate the role of the nurse as a direct provider of care, manager of care, and member within the discipline of nursing within his/her established legal and ethical scope of practice from a pharmacological perspective.

Students are assessed through participation/preparation and responses to structured discussions and critical thinking exercises, scholarly assignments/presentations and communication of evidence-based

practice as well as written exams. Students receive written and oral feedback. An overall score of at least 80% is required in order for the student to continue in the Registered Nursing Program.

Content:

- Unit 1: Review of content of NURP 1103
- Unit 2: IV Therapy
- Unit 3: RN Skills
- Unit 4: Cardiovascular Drugs, Part 1
- Unit 5: Cardiovascular Drugs, Part 2
- Unit 6: Cardiovascular Drugs, Part 3
- Unit 7: Cancer, Part 1
- Unit 8: Cancer, Part 2
- Unit 9: Biological Response Modifiers
- Unit 10: Antibiotics
- Unit 11: Endocrine Drugs
- Unit 12: Psychiatric Drugs
- Unit 13: Drugs of Abuse
- Unit 14: Spiritual Care and Herbal Therapy
- Unit 15: Alternative Therapies

Teaching strategies include directed discussions, critical thinking exercises, audiovisual materials, group activities, selected readings, and scholarly assignments designed to support development of evidence-based innovation in the student's area of program concentration.

Key Performance Indicators:
Student Learning Outcomes will be assessed by the following Key Performance Indicators:
Exams 50-55%
Assignments 40-45%
pass standardized dosage calculation exam at 100% by first day of clinical rotation

Representative Text and/or Supplies:
Adams, M.P. & Koch, R.W., *Pharmacology: Connections to Nursing Practice,* current edition, Pearson Education, Inc.
Fontaine, K.L., *Complimentary & Alternative Therapies for Nursing Practice* current edition, Prentice Hall
Skidmore-Roth, Linda, *Mosby's Nursing Drug Reference,* current edition, Elsevier.

Optimum Class Size: 20
Maximum Class Size: 40

NURP 2180

Division: Business and Applied Technologies
Department: Allied Health
Course: NURP 2180
Title: Mental Health Nursing Across the Lifespan

Catalog Description:
Students study strategies for promoting mental health and preventing life-long illnesses. Various tasks of the psychiatric nurse are introduced with an emphasis on the dynamics and theories behind basic psychopathological conditions. Students learn the nursing processes required for restoring and rehabilitating patients with psychiatric disorders. A primary goal of this course is to develop essential communication skills in an interdisciplinary environment. To enroll, students must be accepted into the Registered Nursing program. This course is part of a required series preparing students to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN).

General Education Requirements: N/A
Semesters Offered: Spring
Credit/Time Requirement: Credit: 2; Lecture: 2; Lab: 0
Clock/Hour Requirements: 30
Offered for Non-Credit: No
Prerequisites: NURP 1108 or equivalent with an accredited Practical Nursing program
Corequisites: NURP 2280

Justification:
It has been said in the healthcare realm that "all nursing is psych nursing." This means that every interaction a nurse has with a patient has a mental health component. By nature, nursing is holistic, which means that nurses focus on not only the physical aspects of the patient, but their mental, spiritual, and emotional health as well. Nurses must learn the potential psychological disorders that patients may present, along with their treatments and nursing care. Nurses must also communicate effectively with patients and their significant others, as well as all members of the healthcare team.
Therapeutic communication is emphasized in this course.

Student Learning Outcomes:
Upon completion of this course, the student should be able to perform the following nursing practice competencies in (primarily) the psychiatric setting:

- Provide safe, humanistic, patient-centered, and evidence-based nursing care (that includes quality improvement) to a diverse, multigenerational and multicultural patient population.
- Utilize therapeutic communication and interpersonal relationship skills to help meet the psychosocial needs of both psychiatric and medical-surgical patients.
- Function as an effective member of the interdisciplinary team, working in collaboration and partnership with other healthcare team members.
- Plan and implement nursing care that reflects knowledge of psychopathology.
- Analyze and demonstrate an ability to utilize, in the providing of care, ethical issues related to the psychiatric setting.

Assessment of student learning outcomes is through tests, assignments and oral exchange in class. Oral and written feedback is given.

Content:

- Unit 1: Introduction to Mental Health/History
- Unit 2: Mental Health Practice Issues
- Unit 3: Assessment
- Unit 4: Therapeutic Communication
- Unit 5: Schizophrenia/Psychotic Disorders
- Unit 6: Personality Disorders
- Unit 7: Anxiety Disorders
- Unit 8: Somatoform/Dissociative Disorders
- Unit 9: Mood Disorders
- Unit 10: Addictive and Eating Disorders
- Unit 11: Sexual Violence, Abuse, and Neglect
- Unit 12: Crisis Intervention
- Unit 13: Disorders of Childhood/Adolescence/Elderly
- Unit 14: The Bereaved Individual

Teaching strategies include lecture, focused discussions, audiovisual materials, group activities, selected readings, and evidence-based practice application exercises and/or activities.

Key Performance Indicators:

Student Learning Outcomes will be assessed by the following Key Performance

- Indicators:
- Assignments 40%-50%
- Exams 20-30%
- Final exam 20%
- An overall score of 80% is required in order for the student to continue in the Registered Nursing program.

Representative Text and/or Supplies:

Townsend, M.C. (2010). *Essentials of Psychiatric Mental Health Nursing: Concepts of Care in Evidence-based Practice* (5th ed.). Philadelphia: F.A. Davis

Optimum Class Size: 20
Maximum Class Size: 40

NURP 2280

Division: Business and Applied Technologies
Department: Allied Health
Course: NURP 2280
Title: Mental Health Nursing Across the Lifespan Clinical

Catalog Description:
This is a companion course to NURP 2180 that provides clinical application of psychiatric/mental health nursing methodology. Students will focus on patients in a variety of health care settings with mental health needs. The course requires 45 clinical hours per semester. To enroll, students must be accepted into the Registered Nursing program. This course is part of a required series preparing students to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN).

General Education Requirements: N/A
Semesters Offered: Spring
Credit/Time Requirement: Credit: 1; Lecture: 0; Lab: 3
Clock/Hour Requirements: 45
Offered for Non-Credit: No
Corequisites: NURP 2180

Justification:
Students have the opportunity in this course to apply concepts learned in theory to the mental health clinical setting. It is imperative for students to come in contact with mentally ill patients in the nursing role in order to gain practical experience in establishing a therapeutic relationship, employ the nursing process, and gain therapeutic communication skills.

Student Learning Outcomes:
Upon completion of this course, the student will be able to:

- Develop therapeutic communication skills to help meet the psychosocial needs of both psychiatric and non-psychiatric patients.
- Demonstrate an ability to establish a therapeutic relationship with patients.
- Communicate effectively with patients, families, and other health-team members.
- Maintain professional relationships and advocate for and support patients through interdisciplinary partnership and collaboration.
- Demonstrate cultural and generational competence in caring for patients and families across a variety of psychiatric settings.
- Participate as a member of the psychiatric community within the discipline of nursing.
- Utilize safe, ethical, patient-centered, humanistic, and evidence-based practices to participate in nursing care of psychiatric patients.

Assessment of student learning outcomes is through clinical assignments and the clinical evaluation tool. Feedback is oral and written.

Content:
Course format:

- Orientation to clinical psychiatric nursing - mental health issues across generations

- Communication skills - therapeutic communication and process recording
- Therapeutic relationships - boundaries, ethics, legal issues
- Cultural competence in caring for patients and families with mental health issues
- Working with the interdisciplinary psychiatric care team
- Application of evidence-based psychiatric nursing principles

Clinical experiences include a mix of these clinical experiences:

- Attending a 12-step meeting
- Viewing the video series "On Our Own Terms: Moyers on Dying"
- Viewing the video series "Close to Home: Moyers on Addiction"
- Completing a clinical rotation at Utah State Hospital
- Time on an inpatient psychiatric unit
- Time with a hospice organization
- Time with a substance use disorder treatment program
- Time with psychiatric-outpatient, day treatment, or other community-based facilities
- Completing a process recording that demonstrates an understanding of therapeutic communication skills.

Key Performance Indicators:
Student Learning Outcomes will be assessed by the following Key Performance Indicators:
Clinical assignments 60-65%
Clinical evaluation 30-35%

Representative Text and/or Supplies:
Townsend, M.C. *Essentials of Psychiatric Mental Health Nursing: Concepts of Care in Evidence-Based Practice.* (current ed.). Philadephia: F.A. Davis.

Optimum Class Size: 5
Maximum Class Size: 10

NURP 2190

Division: Business and Applied Technologies
Department: Allied Health
Course: NURP 2190
Title: Patient Care Management

Catalog Description:
Theory focuses on the synthesis of the nursing knowledge and skills necessary for a registered nurse to enter practice. Licensing, job seeking skills, professionalism, managing, and legal and ethical issues are addressed. To enroll, students must be accepted into the Registered Nursing program. This course is part of a required series preparing students to take the National Council Licensure Examination for Registered Nurses (NLEX-RN).

General Education Requirements: N/A
Semesters Offered: Fall
Credit/Time Requirement: Credit: 2; Lecture: 2; Lab: 0
Clock/Hour Requirements: 30
Offered for Non-Credit: No
Prerequisites: NURP 2130, NURP 2114, NURP 2214
Corequisites: NURP 2290

Justification:
This course is required for the registered nurse to be successful in the field of nursing and to practice safe and competent care within the scope of practice of the registered nurse as mandated by the Utah State Board of Nursing. Students will develop skills necessary to work effectively as an important member in the health care team. This course helps students to learn how to successfully apply for and pass the national licensing exam.

Student Learning Outcomes:
Upon successful completion of this course, students will be able to:

- Incorporate knowledge and skills necessary to perform professionally in the role of a registered nurse
- Obtain the information needed to procure licensure in the State of Utah
- Develop a greater understanding of skills, knowledge, and attitudes needed for successful employment as a registered nurse
- Evaluate strategies the registered nurse needs to ensure safe patient outcomes while employing cost effective practices
- Integrate skills in critical thinking to ensure quality patient care outcomes
- Describe issues facing health care that impact the delivery of nursing care
- Examine nursing with consideration to the cultural, religious, and lifestyle beliefs, values, and expectations of patient and their families.
- Identify the process and steps for preparing to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN)

Assessment of student learning outcomes is through written exams, assignments and oral exchange in the classroom. Oral and written feedback is given.

Content:
Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- Role transition and self-management
- Nursing history and nursing profession
- Mentorship and preceptorship
- Employment considerations
- NCLEX-RN exam
- Nursing management skills
- Nursing communication skills
- Delegation
- Ethical and legal issues
- Cultural and spiritual awareness
- Conflict management
- Healthcare delivery systems
- Workplace issues
- Quality patient care
- Nursing organizations.

Key Performance Indicators:
Student Learning Outcomes will be assessed by the following Key Performance Indicators:

- Class/Group Participation 5%
- Assignments 15%-20%
- NCLEX review 10%-15%
- Class Exams 30%-40%
- Final Exam 20%

Representative Text and/or Supplies:
Zerwekh, JoAnn and Garneau, Ashley, *Nursing Today Transition and Trends*, current edition, Elsevier.
Ohman, Kathleen A., *Davis's Q&A Review for NCLEX-RN*, current edition, FA Davis.

Optimum Class Size: 20
Maximum Class Size: 40

NURP 2290

Division: Business and Applied Technologies
Department: Allied Health
Course: NURP 2290
Title: Patient Care Management Clinical

Catalog Description:
A companion course to NURP 2190, NURP 2290 Clinical focuses on the synthesis of the nursing knowledge and skills necessary for a registered nurse to enter practice. Licensing, job seeking skills, professionalism, managing, and legal and ethical issues are addressed. Hours are a concentrated four-week block and are completed as if the student were a full-time employee. To enroll, students must be accepted into the Registered Nursing program. This course is part of a required series preparing students to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN).

General Education Requirements: N/A
Semesters Offered: Fall
Credit/Time Requirement: Credit: 3; Lecture: 0; Lab: 9
Clock/Hour Requirements: 135
Offered for Non-Credit: No
Prerequisites: NURP 2130, 2114, 2214
Corequisites: NURP 2190

Justification:
This course is required for the registered nurse to be successful in the field of nursing and to practice safe and competent care within the scope of practice of the registered nurse as mandated by the Utah State Board of Nursing. Students will develop skills necessary to work effectively as an important member in the health care team. This course helps students to learn how to successfully function in a patient care setting as a registered nurse.

Student Learning Outcomes:
Upon successful completion of this course, students will be able to:

- Incorporate knowledge and skills necessary to perform professionally in the role of a registered nurse
- Obtain the information needed to procure licensure in the State of Utah
- Develop a greater understanding of skills, knowledge, and attitudes needed for successful employment as a registered nurse.
- Evaluate strategies the registered nurse needs to ensure safe patient outcomes while employing cost effective practices
- Integrate skills in critical thinking to ensure quality patient care outcomes
- Describe issues facing health care that impact the delivery of nursing care
- Examine nursing with consideration to the cultural, religious, and lifestyle beliefs, values, and expectations of patient and their families.

Students are assessed with the NURP 2290 clinical evaluation tool. This evaluation of the student's competence as a RN student is completed by the clinical instructor and the RN preceptor. Feedback is oral and written.

Content:
Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- Role transition and self-management
- Nursing History and nursing profession
- Mentorship and preceptorship,
- Employment considerations
- NCLEX-RN exam Nursing management skills
- Nursing communication skills
- Delegation
- Ethical and legal issues
- Cultural and spiritual awareness
- Conflict management
- Healthcare delivery systems
- Workplace issues
- Quality patient care
- Nursing organizations.

Key Performance Indicators:
Student Learning Outcomes will be assessed by the following Key Performance Indicators:

- preceptor evaluation tool and completion of clinical hours. 100%

Representative Text and/or Supplies:
Zerwekh, JoAnn and Garneau, Ashley, *Nursing Today Transition and Trends*, current edition, Elsevier Saunders.
Ohman, Kathleen, *Davis's Q&A Review for NCLEX-RN* current edition, F.A. Davis.

Optimum Class Size: 10
Maximum Class Size: 15

Construction Technology Department Review Self-Study

representing courses taught in Construction Technology and Construction Management

submitted to the Snow College Board of Trustees and the
Utah State Board of Regents
Summer 2019

Reviewed Spring Semester 2019 with the rating of recommended

- Jared Baker, Professional in Residence for Construction Management, Southern Utah University
- Melanie Jenkins, Associate Vice President for Academic Affairs and Associate Professor of English, Snow College

Program Description and Mission Statement

The Construction Management (CM) Program (Previously known as BCCM) at Snow College offers students excellent, practical training in state-of-the-art residential and light commercial construction. Students develop or enhance their skills in areas such as cabinet making and millwork, rough and finish carpentry, architectural drafting (including Computer-aided drafting systems), computerized estimating and work scheduling. An advisory committee consisting of industry professionals is consulted regularly to enhance the program and keep its offerings current.

The two-year curriculum also includes management and business courses students need to become successful contractors, builders, carpenters, cabinetmakers, or subcontractors. In addition, the program offers a solid base for students who want to transfer into advance programs that lead to professional employment in the construction industry, such as industrial education, construction management, or architecture.

There are presently 23 different classes offered through CM. The program enrolls approximately 45 students each year. Students participating in the program have several options. A Certificate of Completion and Certificate of Proficiency is available for students who complete the program that consists of 18 to 33 credits. A second option is the completion of an Associate of Applied Science degree. This degree requires the completion of a minimum of 63 to 64 credits including core classes in the CM department along with a variety of classes from several other departments. A third option for students is the completion of an Associate Degree and then transferring to a bachelor's program in construction management.

Curriculum

The Construction Management Program offers students excellent, practical training in state-of-the-art residential and light-commercial construction. Students develop or enhance their skills in areas such as cabinet making and millwork, rough and finish carpentry, architectural CAD drafting Students who enroll in this program must be in good mental and physical condition so they can perform required tasks. For some courses, a student must be able to lift 100 lbs., climb ladders and scaffolding, and operate power equipment safely. Meeting these requirements will help students work toward a safe and rewarding career in the construction industry. The two-year curriculum also includes management and business courses students need to become successful contractors, builders, and carpenters. The construction management program offers an associate of science degree (57 to 63 credits), a certificate of completion in construction

management (33 to 34 credits), and two certificates of proficiency in construction management (18 credits) and cabinetry and architectural woodwork (18 credits).

Please see Appendix A for a descriptive list of degrees and course requirements. Appendix B offers a comprehensive list of all currently taught courses. Appendix C provides a curriculum map of courses linked to program learning outcomes.

Student Learning Outcomes

Students who complete Construction Management will be expected to demonstrate that they:

1. Know practical, state-of-the-art residential construction techniques.
2. Possess related business and architecture design skills.
3. Can complete the interior and exterior finish on residential buildings.
4. Can construct quality cabinets.
5. Can design a complete set of plans for a residential building.
6. Believe excellence is the hallmark of all work and activities in the program.
7. Are confident their skills will meet the needs of employers.

Students (all specialties combined)

	2014	2015	2016	2017	2018
Number of Graduates	15	5	3	3	6
Certificates	0	0	0	0	0
Associate Degrees	15	5	3	3	6
Bachelor's Degrees	NA	NA	NA	NA	NA
Master's Degrees	NA	NA	NA	NA	NA
Doctoral Degrees	NA	NA	NA	NA	NA
Number of Students	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Total Headcount	47	33	52	40	34
Total Declared Majors	15	5	12	16	25
Total Department FTE	15.9	28.5	36.6	27.7	24.5
Total Department SCH	238.5	427.5	549.0	416.0	366.9
Student FTE/Faculty FTE	8.4	28.5	24.4	18.5	12.9

Source: Snow College Institutional Research

Academic Advising

The general advising of students attending Snow College is conducted through the Student Success Center. The Center employs a Business and Applied Technologies advisor who is trained to help with schedules, consult about major and career options, and find financial aid resources to pay for school. However, faculty members and part-time instructors in the CM department often meet with students to discuss their current academic and/or performance needs as well as their future goals.

Faculty

Construction Management

- Don Saltzman, Instructor, California Polytechnic State University, B.A.
- Ivan Starr, Instructor, Brigham Young University, B.S.
- Jason Maylett, Adjunct, Utah State University, B.S. (taught fall semester 2014)

Faculty Headcount	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
With Doctoral Degrees					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time					
With Master's Degrees					
Full-Time Tenured					
Full-Time Non-Tenured*	1	.5	.5	.5	1
Part-Time					
With Bachelor's Degrees					
Full-Time Tenured					
Full-Time Non-Tenured*			1	1	1
Part-Time					
Other					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time					
Total Headcount Faculty	1	1	2	2	2
Full-Time Tenured					
Full-Time Non-Tenured*	1	.5	1.5	1.5	2
Part-Time					
FTE					
Full-Time					
Teaching Assistants					
Part-Time					
Total Faculty FTE	1.9	1	1.5	1.5	1.9

Source: Snow College Institutional Research
**Professional Track*

Program Support (all specialties combined)

Cost	2014-2015	2015-2016	2016-2017	2017-2018
Direct Institutional Expenditures	$129,167	$180,695	$85,465	$225,058*
Cost Per Student FTE (Annualized)	$11,330	$8,076	$5,381	$8,919
Funding:				
Appropriated Fund	$129,167	$180,695	$85,465	$225,058
Other:				
Special Legislative Appropriation	NA	NA	NA	NA
Grants of Contracts	NA	NA	NA	NA
Special Fees/Differential Tuition	NA	NA	NA	NA

Source: Snow College Institutional Research
**Full-time position added*

Program Assessment

In accordance with Utah State Board of Regent's policy R411 on the periodic review of educational programs, an on-site visit of Snow College's Construction Management and Construction Technology program was conducted Spring Semester 2019. This visit was preceded by a careful reading of the program's self-study document and included a comprehensive tour of current facilities, conversations with students, class visits, and faculty and administration interviews.

Program Strengths

Strengths of the department include a strong student enrollment at 45 students per year, a good fit with the overall mission and core themes of the College, a program that delivers a quality student experience, and great potential for the program to experience curricular and student growth.

Outlined below are specific commendations for the program along with a listing of recommendations from the review committee.

- Advisory Board: There is a great relationship with advisory board and industry-related professionals. This relationship provides students with a strong network of potential employers as well as direct "real-time" indications of industry needs and innovations. Included in this network is a commitment to service learning that partners with local contractors and/or construction-related organizations. This affords the program to bring in guest speakers who augment instruction. Finally, the students can start their professional career by joining the local Home Builders Association and working with the Ephraim City Housing Authority (ECHA).

- Foundations Course: The creation of the General Education foundations course that partners construction-related skills with the knowledge of folklore and biology is an exception way to integrate general education and the different disciplines into a cohesive and relatable course. This collaboration has also provided program faculty the opportunity to develop internal partnerships and learn from other professors—a relationship not naturally forged between career and technical education and liberal arts instruction.

- Articulation: Modifications to the program have resulted in better curricular articulation with other in-state programs offered at Southern Utah University, Utah Valley University, and Salt Lake

Community College. These improvements strengthened the associate of applied science degree and the various certificates of completion and/or proficiency to better prepare students for immediate entrance to the workforce.

- Facility: The facility provides a good workspace for hands-on learning, and the purchase of new equipment provides students with more relevant experience suitable to program growth.

- Faculty: Without exception the faculty are excellent. They are experienced professionals who are passionate about the industry, the program, and the having students succeed. Students view the faculty as mentors and commented on their remarkable ability to be open-minded in exploring difference aspects of construction and building technology.

Program Weaknesses/Recommendations

1. Professional Development: It was recommended that the program consider adjustments to course loads, faculty administrative duties, and program time commitments (including the hiring of additional faculty) to provide for industry related professional development opportunities.

   Institutional Response: The collaborative work on the General Education foundations course provided current faculty a unique, internal professional development opportunity. Construction faculty will continue to develop and explore those relationships and/or opportunities within the College. In addition, the faculty could use some assistance with the department (even some part-time administrative help) that will help free up time to work on faculty development opportunities.

2. Two Construction Management Learning Tracks: It was recommended that the program explore the development to two distinct learning tracks: one for trades and the other for construction supervision. The "trade track" is very similar to the existing program. The "supervision track" would involve improved articulation with four-year programs. This will allow for students to more seamlessly transition to four-year programs without losing time taking supervision-related classes not currently offered at Snow College.

   Institutional Response: The Associate of Applied Science degree in Construction Management addresses the "trade track" suggestion. Adding an associate degree (like a pathway) in Construction Management will provide the suggested "supervisory track." Faculty will begin to explore the options for this degree. For example, faculty are planning to add a facilities management course the program beginning Spring Semester 2020.

3. Update Program Computers and Software: It was recommended that program be included in the campus computer rotation with new computers being cascaded from the program to other areas of the institution.

   Institutional Response: Faculty consulted with Dr. Hood, Vice President of Academic Affairs, who will help the program apply for a grant from the Governor's Office of Economic Development to help with computer replacement and other infrastructure issues.

4. Student Competition Opportunities: It was recommended that the program investigate more student competition events and activities at local, state, and regional levels. For example, SkillsUSA is held annually with top performers receiving berths to the national competition. Snow College construction technology students can complete at the state and national level and this recognition of their abilities can be a marketing boost to the program.

   Institutional Response: Faculty will investigate these competitions and work with student interest to promote involvement in SkillsUSA and other similar competitions.

Appendix A: Course Requirements Specific to Degree Outcomes

Construction Management & Technology—required coursework

CM 1155 Construction Print Reading (3)
CM 1200 Building Science Fundamentals (3)
CM 1210 Construction Technologies Lab I (3)
CM 1710 Construction Technologies lab II (3)
CM 2020 Materials and Methods I (3)
CM 2030 Materials and Methods II (3)
CM 2275 Construction Codes and Zoning (3)
CM 2460 Construction Scheduling and Cost Control (3)
CM 2610 Architectural Drafting (3)
CM 2850 Construction Math and Estimating (3)
Required credits: 30

Construction Management & Technology—elective coursework choose 2-4 courses (6-12 Credits)**

CM 1290 Electrical Wiring (3)
CM 1997 Internship – First Year (1-3)
CM 2010 Framing Methods (5)
CM 2150 Cabinet Construction (3)
CM 2210 Construction Technologies Lab III (3)
CM 2710 Construction Technologies Lab IV (3)
CM 2997 Internship – Second Year (1-3)
DRFT 1100 Architecture-Residential Design (3)
ENGR 2240 Surveying and Global Positioning (3)
Required credit: 6-12

Business Courses Elective - choose 4- 6 courses (12-19 Credits) **

+BUS 1020 Computer Technology and Applications (3)
+BUS 1060 QuickBooks for Small Business (3)
*BUS 1210 Personal and Consumer Finance (3) SS GE
+BUS 1300 Social Media Marketing (3)
+BUS 1600 Entrepreneurship Seminars (1)
+BUS 2222 Entrepreneurship (3)
+BUS 2650 Management Principles for Entrepreneurs (3)
Required Credit: 12-19

Communication Requirement - choose 1 of the following courses

+BUS 1270 Strategic Selling (3)
BUS 2200 Business Communications (3)
BUS 2450 Presentations for Business (3)
*ENGL 1010 Expository Composition (3) E1 GE
Required credit: 3 credits

Human Relations Requirement - choose 1 of the following courses (3 credits)

BUS 1170 Human Relations in Organizations (3)
COMM 2110 Interpersonal Communications (3)

GNST 1200 GE Foundations (3)
Required credit: 3 credits

Computation Requirement - choose 1 of the following courses (3-4 credits)
AT 1715 Applied Technical Math (3)
*MATH 1050 College Algebra (4) QL GE
Required credit: 3 to 4 credits

**recommended if student plans on obtaining a 4-year degree*
+Students may earn a concurrent Certificate of Proficiency in Entrepreneurship by completing theses seven Business courses
***Must take 24 credits from the two elective groups*

Certificate of Completion – Construction Management

Course Prefix and Number	Title	Credit Hours
Required Courses	Complete All (18 Credits)	
CM 1155	Construction Print Reading	3
CM 2020	Materials and Methods, I	3
CM 2275	Construction Codes and Zoning	3
CM 2460	Construction Scheduling and Cost Control	3
CM 2850	Construction Math and Estimating	3
CM 1210 or CM 1710	Construction Technologies Lab I / Construction Technologies Lab II	3
	Subtotal	18
CM Elective Courses	Choose 2 (6 Credits)	
CM 1200	Building Science Fundamentals	3
CM 1290	Residential Electrical Wiring	3
CM 1710	Construction Technologies Lab II	3
CM 2030	Materials and Methods II	3
CM 2610	Architectural Drafting CAD	3
DRFT 1100	Architecture-Residential Design	3
	Subtotal	6
Communication Requirement	Choose 1 (3 Credits)	
+BUS 1270	Strategic Selling	3
BUS 2200	Business Communications	3
BUS 2450	Presentations for Business	3
ENGL 1010	Expository Composition	3
	Subtotal	3
Human Relations Requirement	Choose 1 (3 Credits)	
BUS 1170	Human Relations in Organizations (SS)	3
COMM 2110	Interpersonal Communications	3
	Subtotal	3
Computation Requirement	Choose 1 (3 Credits)	

AT 1715	Applied Technical Math	3
MATH 1050	College Algebra	4
	Subtotal	3-4
	Total Number of Credits	33-34

+Required for Business Entrepreneurial Certificate

Certificate of Proficiency – Construction Management

Course Prefix and Number	Title	Credit Hours
Required Courses	Complete All (6 Credits)	
CM 1155	Construction Print Reading	3
CM 2020	Material and Methods, I	3
	Subtotal	6
CM Elective Courses	Choose 3	
CM 1200	Building Science Fundamentals	3
CM 1210	Construction Technologies Lab I	3
CM 1290	Residential Electrical Wiring	3
CM 1710	Construction Technologies Lab II	3
CM 2275	Construction Codes and Zoning	3
CM 2610	Architectural Drafting CAD	3
	Subtotal	9
Business Elective Courses	Choose 1	
+BUS 1020	Computer Technology and Applications	3
+BUS 1060	QuickBooks for Small Business	3
+BUS 1170	Human Relations in Organizations	3
BUS 1210	Personal and Consumer Finance	3
+BUS 1270	Strategic Selling	3
BUS 2200	Business Communications	3
BUS 2450	Presentations for Business	3
	Subtotal	3
	Total Number of Credits	18

+Required for Business Entrepreneurial Certificate

Certificate of Proficiency in Cabinetry and Architectural Woodworking

Course Prefix and Number	Title	Credit Hours
Required Courses	Complete All (12 Credits)	
CM 1155	Construction Print Reading	3
CM 2150	Cabinet Construction	3
CM 2690	Woodworking Technology	3
CM 2850	Construction Math & Estimating	3
	Subtotal	12
Business Elective Courses	Choose 2 (6 Credits)	
+BUS 1020	Computer Technology and Applications	3

+BUS 1060	QuickBooks for Small Business	3
+BUS 1170	Human Relations in Organizations	3
BUS 1210	Personal and Consumer Finance	3
BUS 2200	Business Communications	3
BUS 2450	Presentations for Business	3
	Subtotal	6
	Total Number of Credits	18

+Required for Business Entrepreneurial Certificate

Appendix B: Construction Technology Courses

CM 1100 Construction Math and Estimating
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1:4)
Description: In this course, students learn to compute quantities of materials, cost of materials, labor, and other costs related to a residential building. Prerequisites: Prior or concurrent enrollment in CM 1155 or CM 2010, or previous residential construction experience, or equivalent.

CM 1155 (formerly CM 1150) Construction Print Reading (formerly Blueprint Reading)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: In this course, students learn the symbols, terms, specifications, relationships of views, measurements, sections, and details for proper interpretation of plans used for residential and light commercial buildings.

CM 1200 Building Science Fundamentals
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course will cover essential building science principles that enable students to construct buildings that are safe, comfortable to live in, energy efficient, and functional for many years. Students will learn how to apply building science principles to new construction and how to apply the same principles to remodeling existing homes. Principles of sustainability are incorporated throughout this course.

CM 1210 Construction Technologies Lab I
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:0:6)
Description: This course is a hands-on construction lab experience where students will learn the training necessary to allow them to be employable in a construction-related field and to perform required duties safely. Each semester students will participate in available projects as determined by the instructor. The projects will vary from semester to semester based on local need and student interest.

CM 1280 Plumbing Fundamentals
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course includes the study of plumbing fundamentals and is a familiarization course for carpenters to aid them in coordinating their work with that of the mechanical work performed by the plumber. It includes practical experience in plumbing a project house and code compliance. This is a half semester course.

CM 1290 Residential Electrical Wiring
Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (3:2:2)
Description: In this course, students receive instruction on the fundamentals of wiring a residential home with emphasis on electrical code and safety requirements. The course includes actual practical electrical wiring experience.

CM 1710 Construction Technologies Lab II
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:0:6)
Description: This course is a hands-on construction lab experience where students will learn the training necessary to allow them to be employable in a construction-related field and to perform required duties safely. Each semester students will participate in available projects as determined by the instructor. The projects will vary from semester to semester based on local need and student interest

CM 1999 Cooperative Education Experience
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1-6:0:2-12)
Description: This course provides an opportunity for students to apply knowledge and techniques learned in the classroom to actual job experience. Classroom instruction must precede the job experience or the student must be registered for courses at the same time the student is enrolled in the work experience.
Prerequisites: Instructor approval required.

CM 2020 Materials and Methods I
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course covers the practical theory of residential structures and the construction process methods and materials used.

CM 2030 Materials and Methods II
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course covers the practical theory of commercial structures and the construction process methods and materials used.

CM 2150 Cabinet Construction
Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (3:1:5)
Description: This course provides instruction in the principles and procedures used in the design, layout, and construction of cabinets for a residential home. It includes practical experiences in building quality cabinets for a residential project home. The course also includes a familiarization of tools, materials, and process of the woodworking industry with a special emphasis on safety.

CM 2210 Construction Technologies Lab III
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:0:6)
Description: This course is a hands-on construction lab experience where students will learn the training necessary to allow them to be employable in a construction-related field and to perform required duties safely. Each semester students will participate in available projects as determined by the instructor. The projects will vary from semester to semester based on local need and student interest

CM 2275 Construction Codes and Zoning (formerly CM 2270)
Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course introduces the practical applications of the Uniform Building Code especially inspection procedures and requirements for residential and light commercial construction. The National Green Building Standard will also be part of this course of study.

CM 2356 Construction Specialties
Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (.5-3:0:1.5-9)
Description: This course provides practical application of courses where additional experience and practice are desired; such as, on-the-job training, carpentry projects, and extra study in specialized areas of the building industry. Approval of project is coordinated with advisor prior to enrollment in this repeatable course.

CM 2460 Construction Scheduling and Cost Control
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course provides instruction in the planning and scheduling of construction projects. Students learn construction project control through use of critical path, Gantt bar charts, and reporting practices making paper charts and using project software.

CM 2610 Architectural Drafting CAD
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: An introduction to architectural design and working drawings. The class will study architectural practices, procedures, symbology, dimensioning techniques, standards and terminology. Practical applications in planning and functional design and working drawings.

CM 2660 Entry and Passage Door Construction
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1:5)
Description: This course provides hands-on technical training on how to build raised panel entry and passage doors for residential homes. During the course students will build the doors for the Snow College project house.

CM 2690 Woodworking Technology
Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (3:1:5)
Description: This course is a wood project construction course with experience in milling, assembling and designing of wood projects. Emphasis is placed on layout and construction techniques. The instruction in the making of high-end furniture, including the various types of joinery and finishes will be covered.

CM 2710 Construction Technologies Lab IV
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:0:6)
Description: This course is a hands-on construction lab experience where students will learn the training necessary to allow them to be employable in a construction-related field and to perform required duties safely. Each semester the

student will participate in available projects as determined by the instructor. The projects will vary from semester to semester based on local need and student interest

CM 2800 Special Projects

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1-2:0:3-6)
Description: This course involves a special project where there is a demonstrated need which cannot be met through enrollment in a regularly scheduled course. It also could include special projects of unusual merit in furthering a student's professional and academic goals. Students must be able to sustain and complete independent learning projects. The course provides a framework for developing and enhancing student abilities. The Special Projects Contract must be completed and will indicate the department through which credit will be awarded. Special projects for one credit can be approved by the advisor, the division dean, and the division representative to the Curriculum Committee. Projects for more than one credit must be approved by the advisor, division dean, and Curriculum Committee. Credit for a special project normally should be one to two credit hours depending on the work completed, but may be more with approval of the dean and Curriculum Committee. Unless approved in the contract, special project credit may not be used to satisfy general education requirements. Repeatable for credit. (This course is equivalent to GNST 2800.)

CM 2850 Construction Math and Estimating (formerly CM 1100)

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: In this course, students learn to compute quantities of materials, cost of materials, labor, and other costs related to a residential building. Prerequisites: Prior or concurrent enrollment in CM 1150 or CM 2010, or previous residential construction experience or equivalent.

CM 2999 Cooperative Education Experience

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1-6:0:2-12)
Description: This course provides an opportunity for students to apply knowledge and techniques learned in the classroom to actual job experience. Classroom instruction must precede the job experience or the student must be registered for courses at the same time the student is enrolled in the work experience.
Prerequisites: Instructor approval required.

DRFT 1100 Architecture-Residential Design

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: The emphasis of this course is comprehensive coverage of design fundamentals and procedures used to represent design ideas using traditional, as well as state of the art technology. It covers the solving of problems related to the design of a residential structure and considers the influence of building cost, modular applications, building codes, and zoning regulations with respect to the site and design.

Appendix C: Currculum Map and Outcomes Assessment

Snow College Construction Technology Curriculum Map

Summary:

The Construction Management Program offers students excellent, practical training in state-of-the-art residential and light-commercial construction. Students develop or enhance their skills in areas such as cabinet making and millwork, rough and finish carpentry, architectural drafting (including computer-aided drafting systems).

Students who enroll in this program must be in good mental and physical condition, so they can perform required tasks. For some courses, a student must be able to life 100 lbs., climb ladders and scaffolding, and operate power equipment safely. Meeting these requirements will help students work toward a safe and regarding career in the construction industry.

The two-year curriculum also includes management and business courses students need to become successful contractors, builders, and carpenters.

Outcomes:

Students who complete Construction Management will be expected to demonstrate that they:

1. Know practical, state-of-the-art residential construction techniques.
2. Possess related business and architecture design skills.
3. Can complete the interior and exterior finish on residential buildings.
4. Can construct quality cabinets.
5. Can design a complete set of plans for a residential building.
6. Believe excellence is the hallmark of all work and activities in the program.
7. Are confident their skills will meet the needs of employers.

Program Coursework and Assessment	Knowledge Area: Construction Management							
	Know practical state of-the-art residential construction techniques.	Possess related business and architecture design skills.	Can complete interior and exterior finish on residential buildings.	Can construct quality cabinets.	Can design a complete set of plans for a residential building.	Believe excellence is the hallmark of all work and activities in the program.	Are confident their skills will meet the needs of employers.	Meet other program level outcomes.
Course/Program Outcome	1	2	3	4	5	6	7	
CM 1155(formerly CM 1150) Construction Print Reading						x	x	
CM 1200 Building Science	x					x	x	
CM 1210 Construction Lab Technologies I	x		x			x	x	
CM 1290 Electrical Wiring						x	x	
CM 1710 Construction Lab Technologies II	x		x			x	x	
CM 2020 Materials & Methods I	x		x			x	x	
CM 2030 Materials & Methods II	x					x	x	
CM 2150 Cabinet Construction	x	x		x		x	x	
CM 2210 Construction Lab Technologies III	x		x			x	x	
CM 2275 Construction Codes & Zoning	x					x	x	
CM 2356 Construction Specialties	x					x	x	
CM 2610 Architectural Drafting/CAD	x	x			x	x	x	
CM 2640 Construction Schedule & cost Control	x					x	x	

CM 2690 Wood Technology	x	x		x		x	x	
CM 2710 Construction Lab Technologies IV	x		x			x	x	
CM 2800 Special Projects						x	x	
CM 2860 Construction Math & Estimating	x					x	x	
CM 1999/2999 Cooperative Education	x					x	x	

- Blue boxes represent assessment for more than one program.
- Orange boxes represent assessment for this program

Industrial Technology Department Review Self-Study

representing courses taught in Composites, Industrial Manufacturing, Industrial Mechanics, Machine Tool Technology, and Welding Technology

submitted to the Snow College Board of Trustees and the
Utah State Board of Regents
Summer 2019

Reviewed Spring Semester 2019 with the rating of recommended

- Richard Cozzens, Professional in Residence, Engineering and Technology, Southern Utah University
- Andrew Flinders, Assistant Professor of Mathematics, Snow College

Program Description and Mission Statement

Industrial Technology Department focuses on five key programs to instruct students in the most important aspects of today's job market. Students will complete the programs with a knowledge of industry standards, proficiency in state-of-the-art techniques, and the ability to compete in any job market. The hands-on classes and experienced instructors ensure that the learning experience won't come just from a textbook, but rather from gaining actual working experience with high-tech equipment and methods completing a variety of projects.

Industrial Manufacturing

The program is intended for students interested in working in manufacturing settings as a general manufacturing technician for manufacturing, processing, or other production environments. The Industrial Manufacturing Technology program prepares students to design/develop, install, maintain, diagnose/troubleshoot, and repair complex and integrated manufacturing equipment/systems.

This program is designed to give students a basic knowledge of maintaining and repairing a variety of machines and mechanical systems within manufacturing facilities. Through lecture and practical lab experience students will learn the industrial manufacturing skills needed in today's industry.

Industrial manufacturing mechanic students will be developing, maintaining and repairing a wide variety of machines, mechanical systems including factory machinery, food processing machinery, textile machinery, transportation equipment, and metal fabrication machinery: simple and complex parts. Students will diagnose mechanical pneumatic, hydraulic, and electrical problems. Students will be working with mathematics, blueprint reading, welding, electronics, and computers.

Students will be required to pass an entrance test with math and reading scores of an appropriate level. If the scores are too low, students will need to plan extra time to remediate those skills upon entering the program.

Industrial Mechanics

This program is designed to give students a basic knowledge of maintaining and repairing a variety of machines and mechanical systems. Through lecture and practical lab experience students will learn the industrial mechanics skills needed in today's industry.

Students pay regular college tuition plus the cost of tools, coveralls, and safety equipment during their training. The purchased equipment is the personal property of the student.

As an industrial mechanic, students will be maintaining and repairing a wide variety of machines, mechanical systems including factory machinery, food processing machinery, textile machinery, transportation equipment, and metal fabrication machinery. Students will diagnose mechanical pneumatic, hydraulic, and electrical problems. Students will be working with mathematics, blueprint reading, welding, electronics, and computers.

Students will be required to pass an entrance test with math and reading scores of an appropriate level. If the scores are too low, students will need to plan extra time to remediate those skills upon entering the program.

Machine Tool Technology

Snow College offers a Machine Tool Technology program of 63 semester hours of instruction that prepares students to meet job entry requirements.

The machine tool program is designed to give students a basic knowledge of machining skills. Items covered include: math, blueprint reading, conventional lathe and mill operation, feeds and speeds, grinder operation, and the operation of computer numerical control (CNC) lathes and mills. Through lecture and practical lab experience, students can learn the machine tool operation skills needed in today's industry.

Students pay regular college tuition plus the cost of tools, coveralls, and safety equipment during their training. The purchased equipment is the personal property of the student.

An Associate of Applied Science degree is offered in this program.

Exact course descriptions and hours for the Snow College Machine Tool Technology program match with other state schools and use national and international curriculum and task lists. There has been a working relationship between institutions to accept student hours and credit. Students have received training at Snow College Richfield campus, formerly SVATC, since 1993.

Students will be required to pass an entrance test with math and reading scores of an appropriate level. If the scores are too low, students will need to plan extra time to remediate those skills before entering the program.

Welding Technology

Snow College offers a Welding Technology program of approximately 63 semester hours of instruction, which prepares the student to meet job entry requirements. This program covers all welding processes

commonly used in the fabrication, repair, and construction industries. It is taught by welding on both plate and pipe, and using ferrous and non-ferrous materials.

Students pay regular college tuition plus the cost of tools, coveralls, and safety equipment during their training. The purchased equipment is the personal property of the student.

Students have two options. They may obtain (1) an Associate of Applied Science degree in Welding Technology, or (2) complete any one or more of specific Welding courses without completing the degree.

Exact course descriptions and hours for the Welding Technology program match with other state schools and use national and international curriculum and task lists. There has been a working relationship between institutions to accept student hours and credit.

Curriculum: Please see Appendix A for a descriptive list of respective degrees and course requirements. Appendix B offers a comprehensive list of all currently taught courses. Appendix C has curriculum and assessment maps.

Student Learning Outcomes

Industrial Manufacturing

Students who complete an AAS degree in Industrial Manufacturing Mechanics Technology will be expected to demonstrate that they have acquired skills/knowledge in the following areas:

- Manual dexterity-when handling very small parts, workers must have a steady hand and good hand-eye coordination
- Mechanical skills-use sophisticated diagnostic equipment for troubleshooting
- Technical skills-use sophisticated diagnostic equipment for troubleshooting
- Troubleshooting skills-must observe and properly diagnose and fix problems that a machine may be having
- Design-must have knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models
- Mathematics-knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications
- Judgment and decision making-industrial manufacturing mechanics must have the ability to measure the relative cost and benefits of potential actions to choose the most appropriate decision
- Operation and control-controlling operations of manufacturing equipment or system
- Critical thinking-use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Industrial Mechanics

Students who complete an AAS degree in Industrial Mechanics Technology will be expected to demonstrate that they have acquired skills/knowledge in the following areas:

- Manual dexterity-when handling very small parts, workers must have a steady hand and good hand-eye coordination
- Mechanical skills-industrial mechanics use sophisticated diagnostic equipment for troubleshooting
- Technical skills-industrial mechanics use sophisticated diagnostic equipment for troubleshooting
- Troubleshooting skills-industrial mechanics must observe and properly diagnose and fix problems that a machine may be having
- Design-industrial mechanics must have knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models
- Judgment and decision making-industrial mechanics must have the ability to measure the relative cost and benefits of potential actions to choose the most appropriate decision
- Operation and control-controlling operations of manufacturing equipment or system
- Critical thinking-using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Machine Tool Technology

Students who complete an AAS degree in Machine Tool Technology at Snow College will be expected to demonstrate that they:

- Have knowledge of machining skills, i.e., lathe operation, milling machine operations, Computer Numerical Control basics, drilling machines, and other machine shop support equipment
- Know machine shop safety and rules of conduct
- Have basic knowledge of quality control, measuring instruments, and blueprint reading
- Know basic knowledge of cutters and material metallurgy
- Can follow the guidelines and standards as set by industry requirements
- Produce quality machined products in a safe, time efficient manner according to required specifications
- Have a sense of pride in their skills and abilities
- Grow in individual ingenuity and imagination
- Acquire the ability to lead and help others grow with them
- Have an increase in individual self-esteem as they receive recognition from a job well done

Welding Technology

Students who complete an AAS degree in Welding Technology at Snow College will demonstrate that they

- have a knowledge of welding technology skills; i.e., safety, oxyacetylene welding,
- cutting, shielded metal arc welding, gas metal arc welding, flux cored arc welding, gas
- tungsten arc welding, blueprint reading, applied math, metallurgy, electrical safety, etc.;
- have a knowledge of codes and standards;
- have knowledge of tools used in the trade;
- have knowledge of interpersonal skills;

- can demonstrate good safety practices in shop;
- complete 80% of skill/task lists for each course;
- correctly weld in all positions;
- have a sense of pride in their skills and abilities;
- understand the need to develop hand-eye coordination;
- have a feeling of confidence as they successfully complete required work assignments

Students

	2014	2015	2016	2017	2018
Number of Graduates	7	12	20	16	21
Certificates	0	2	9	4	12
Associate Degrees	7	10	11	12	9
Bachelor's Degrees	NA	NA	NA	NA	NA
Master's Degrees	NA	NA	NA	NA	NA
Doctoral Degrees	NA	NA	NA	NA	NA
Number of Students	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Total Headcount	120	149	132	166	140
Total Declared Majors	40	55	34	79	59
Total Department FTE	61.0	67.8	61.4	68.3	58.2
Total Department SCH	915.0	1016.9	920.5	1024.0	873.0
Student FTE/Faculty FTE	12.4	16.5	16.1	14.8	12.9

Source: Snow College Institutional Research

Academic Advising

The general advising of students attending Snow College is conducted through the Student Success Center. The Center employs many advisors who are trained to help with schedules, consult about major and career options, and find financial aid resources to pay for school. In addition, the division funds a special advisor concentrating on career and technical education pathways whom our department has consulted. Lastly, faculty members and part-time instructors in the department often meet with students to discuss their current academic and/or performance needs as well as their future goals.

Faculty

Composites

- Chad Avery - 9 years Composite Technician, 1 year teaching Industrial Manufacturing
- Colton Nay – AAS Machine Tool, 4 years industry, Fanuc Robotics and Faro Measurement certifications. 4 years teaching

Industrial Mechanics

- Ken Avery – AAS Automotive, 39 years industry, 7 years teaching,

- Morgan White – 40 years industry, 1-year teaching (mechanics and welding)

Machine Tool Technology

- Alan Hart – AAS Machine Tool, 15 years teaching, 26 years industry, MasterCam X7 multi axis certification, HTEC certification
- Dain Houston – AAS Machine Tool, 9 years teaching assistant, 27 years industry

Welding Technology

- Alan Palmer - Associate Professor Masters Ed., 26 years teaching, 40 years industry
- James Batterman - 34 years Industry, 5 years teaching assistant

Faculty Headcount	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
With Doctoral Degrees					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time					
With Master's Degrees					
Full-Time Tenured	1	1	1	1	1
Full-Time Non-Tenured					
Part-Time					
With Bachelor's Degrees					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time					
Other					
Full-Time Tenured					
Full-Time Non-Tenured	2	3	3	3	5
Part-Time					
Total Headcount Faculty	3	4	4	4	6
Full-Time Tenured	1	1	1	1	1
Full-Time Non-Tenured	2	3	3	3	5
Part-Time					
FTE					
Full-Time					
Teaching Assistants	2	2	2	2	2
Part-Time					
Total Faculty FTE	4.9	4.1	3.8	4.6	4.5

Source: Snow College Institutional Research

Program Support

Cost	2013-2014	2014-2015	2016-2017	2018-2019
Direct Institutional Expenditures	$302,520	$448,716	$427,340	$477,052
Cost Per Student FTE (annualized)	$11,554	$22,490	$14,544	$15,105
Funding:				
Appropriated Fund	$302,520	$448,716	$427,340	$477,052
Other:				
Special Legislative Appropriation	NA	NA	NA	NA
Grants of Contracts	NA	NA	NA	NA
Special Fees/Differential Tuition	NA	NA	NA	NA

Source: Snow College Institutional Research

Advisory Committee

First Name	Last Name	Company	City
Courtney	Robinson	Freedom Innovations/Engineer	Gunnison
Scott	Nielson	Enve Composites/VP of Research and Development	Ogden
Lindsey	Field	Applied Composite Technology	Gunnison
Bill	Moore	Klune Industries	Spanish Fork
Cory	Burdick	Airgas	Price
Scott	Barclay	Barclay Mechanical	Manti
John	Uberti	Pipe Fitters Union	Salt Lake
Jim	Reynolds	Barney Trucking	Salina
Spencer	Grant	Cyber Jet	Cedar City
Bruce	Lindsay	Bowie Resources	Salina
Clay	Shumway	US Gypsum	Sigurd
Doug	Anderson	Redmond Minerals	Redmond
Craig	Southworth	Ashgrove Cement	Leamington
Kent	Mickelson	Wheeler Machinery	Salina
Clint	Proctor	Flow Serve	Springville
Mike	Tylor	Norbest	Moroni
Tyler	Ellertson	Juab High School	Nephi

Program Assessment

In accordance with Utah State Board of Regent's policy R411 on the periodic review of educational programs, an on-site visit of Snow College's Industrial Technology program was conducted Spring Semester 2019. This visit was preceded by a careful reading of the program's self-study document and included a comprehensive tour of current facilities, conversations with students, class visits, and faculty and administration interviews.

Program Strengths:

Outlined below are specific commendations for the program.

- Faculty: The review found that one of the main strengths of all five programs was the experience and coordinated efforts of faculty. This was evident in the small class sizes that provided opportunities to work directly with faculty in "hands-on" real-world experiences.

- Innovation: It was impressive to the reviewers how many of the concerns from the previous review were proactively addressed by faculty. For example, the welding technology program build the 5-ton dump trailer and each of the welding tables used for student projects. In addition to the superior construction, the facilities were well maintained. Each piece of equipment was in good working order and the workspace in instructional rooms and teaching laboratories was clean and well-organized.

- Economic Need: The economy in the regional area is strong, which has created a demand for program graduates. The curriculum is well-adapted to the current workforce needs. In fact, a main challenge to the program is the early exit of students who find full-time job placement prior to completing all the program's degree requirements.

- Advisory Board and Articulation: The reviewers complemented the diversity, strength, and active involvement of the program's advisory board. The Advisory Board has played a critical role in developing relevant curriculum and instruction such as the composites program. The reviewers also found it noteworthy how the programs have pursued articulation agreements and generated potential pathways for students to further their education at four-year engineering and technology programs.

Program Weaknesses/Recommendations:

1. Grants: It was recommended that, either individual or collectively, the programs pursue grants like the Strategic Workforce Initiative Grant (SWI) in order to incorporate new technology into the curriculum.

   Institutional Response: The Industrial Technology Department will continue to look for and apply for grants and faculty professional training opportunities to assist in bring new technology to all programs.

2. Enhance Visibility: It was recommended that the department more actively reach out to the main campus to find connections to the non-CTE areas of the institution and to increase program visibility on the Richfield and Ephraim campuses

   Institutional Response: The Industrial Technology Department will continue to work with other programs on the main campus in providing constructed materials and will continue to explore opportunities for program integration (e.g. a GE foundations course).

3. Improve Program Marketing: It was recommended that program faculty work with Advisory Board members, college recruitment officials, and the local community to better promote the program to prospective students.

   Institutional Response: Currently the Industrial Technology program sponsors several public open houses through the year and participates in community events such as Hoodstock (an annual classic and modern car restoration show) and the Richfield Community Christmas Light Parade. Instructors attend local high schools on public education career days and assist local shop teachers when requested. Program faculty have also appeared on local radio shows, provided print advertisement, presented at local chamber of commerce meetings, and participated in community open houses and career fairs. Program faculty will continue to find avenues to showcase the program and student accomplishments.

4. Public Education Outreach: It was recommended that the faculty improve efforts to contact Snow College admissions advisors and local high school counselors regarding the program's opportunities and career placement benefits.

   Institutional Response: Program faculty are assigned to distinct high schools where they regularly meeting with students, teachers, and staff to share information about the Industrial Technology program. The faculty will also pursue more opportunities to provide concurrent enrollment industrial technology courses to local high schools and via distance using interactive video technology and trained shop teachers who can provide offsite supervised lab experiences.

5. Industrial Technology and Pre-Engineering Program: It was recommended that better collaboration exists between Snow College's Industrial Technology program and Pre-Engineering program. Each program can strengthen the curriculum and student experience of the other.

   Institutional Response: Industrial Technology program faculty will establish meetings with Engineering program faculty to determine curricular mutual benefits and better program coordination.

Appendix A: Course Requirements Specific to Degree Outcomes

Industrial Manufacturing

(recommended courses in addition to the General Education core coursework)

Course	Description	Credits
MANF 1060	Industrial Blueprint Reading	3
MANF 1100	Manufacturing and Automation Tech	3
MANF 1200	Introduction to Robotics	3
MANF 1300	Geometric Dimensioning and Tolerancing	3
MANF 1400	Composites	3
MANF 1500	Quality Control	3
MANF 2332	Mechanical CAD Drafting	4
INDM 1050	Industrial Safety and Basics	1
INDM 1100	Industrial Mechanics I	3
INDM 1600	Industrial Electricity	3
INDM 1800	Industrial Hydraulics	3
INDM 1900	Industrial Controls & PLC	3
WELD 1030	Related Oxy-Acetylene and Arc Welding	3
MTT 2435	Computer Numerical Control Operations	4
MTT 2440	Computer Aided Manufacturing	4

Industrial Mechanics

(recommended courses in addition to the General Education core coursework)

Course	Description	Credits
INDM 1050	Industrial Safety and Basics	1
INDM 1060	Industrial Blueprint Reading	3
INDM 1100	Industrial Mechanics I	3
INDM 1200	Industrial Mechanics II	3
INDM 1300	Industrial Mechanics III	3
INDM 1400	Industrial Mechanics IV	3
INDM 1500	Industrial Pneumatics	3
INDM 1600	Industrial Electricity	3
INDM 1620	Industrial Electronics	3
INDM 1800	Industrial Hydraulics	3
INDM 1820	Industrial Pumps	3
INDM 1840	Industrial Rigging	3
INDM 1900	Industrial Controls & PLC	3
MTT 1000	Machine Tool Technology	2
MTT 1110	Intro to Precision Machining	3
MTT 1125	Intro to Precision Machining Lab	5

WELD 1020	Shielded Metal Arc Welding	4
WELD 2200	Semi-Auto Processes/MIG	2

Machine Tool Technology

(recommended courses in addition to the General Education core coursework)

Course	Description	Credits
MTT 1110	Intro to Precision Machining	3
MTT 1125	Intro to Precision Machining Lab	5
MTT 1210	Intermediate Precision Machining	3
MTT 1225	Intermediate Precision Machining Lab	5
MTT 2330	Introduction to Computer Numerical Control	3
MTT 2335	Introduction to Computer Numerical Control lab	5
MTT 2430	Computer Numerical Control Operations	3
MTT 2435	Computer Numerical Control Operations lab	5
MTT 2716	Machine Tool Mathematics/Measurement	3
MANF 1060	Industrial Blueprint Reading	3
MANF 1300	Geometric Dimensioning and Tolerancing	3
MANF 1500	Quality Control	3
MANF 2332	Mechanical CAD Drafting	4
WELD 1030	Related Oxy-Acetylene and Arc Welding	3
WELD 2332	Metallurgy	4

Welding Technology

(recommended courses in addition to the General Education core coursework)

Course	Description	Credits
WELD 1012	Oxyacetylene Welding	2
WELD 1015	Cutting Processes	2
WELD 1020	Intro to SMAW	4
WELD 1220	Intro to GMAW	2
WELD 1420	Intro to GTAW	2
WELD 1310	Welding Inspection	2
WELD 2020	Advanced SMAW	4
WELD 2220	Advanced GMAW	3
WELD 2230	Advanced FCAW	3
WELD 2420	Advanced GTAW	4
WELD 2210	Blueprints for Welders	5
WELD 2320	Metallurgy	4
WELD 2300	Weld Fabrication	3
WELD 2520	Advanced Pipe Welding	6
INDM 1600	Industrial Electricity	3

INDM 1840	Industrial Rigging	3
MANF 1060	Industrial Blueprint Reading	3
MANF 2332	Mechanical CAD Drafting	3
MTT 1350	Related Machine Shop	2

General Education Courses

GE Area	Course Name	Credits
Computation	AT 1715 Applied Technical Math or MATH 1050 College Algebra	3-4
Composition	BUS 2200 Bus. Communication or ENGL 1010	3
Human Relations	GNST 1200 GE Foundations or BUS 1170 Human Relations in Org.	3
Technology	BUS 1020 Computer Technology and Applications	3

Appendix B: Industrial Technology Courses

INDM 1050 Industrial Safety
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:1:1)
Description: This course teaches the rights and responsibilities of workers in the workplace to ensure industrial safety. Students will gain valuable knowledge about how they can protect themselves and others in industrial settings. Students will explore a wide range of topics, including laws, guidelines, behaviors, and equipment related to industrial safety.

INDM 1060 Industrial Print Reading
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course is an introduction to reading and interpreting working drawings and prints for industrial processes and associated trades. Students will receive basic information on blueprints and written documents commonly found in industrial environments. The course is designed to allow the student to develop an understanding of the use of prints and an ability to read and interpret prints found in industrial settings.

INDM 1100 Industrial Mechanics I
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course is designed to introduce the basics of industrial mechanical systems. This course begins a series of four courses designed to prepare students to understand and recognize mechanical systems they will encounter on the job. Students will learn relevant industrial skills, including mechanical drive systems, key fasteners, power transmission systems, v-belt drives, chain drives, spur gear drives and multiple shaft drives. Students will learn basic measuring for industrial applications using basic measurement tools to include: digital calipers, micrometers and dial calipers.

INDM 1200 Industrial Mechanics II
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: The course teaches the bearings and gears used in heavy duty mechanical transmission systems. This course will emphasize linear axis drives, clutches and brakes. In addition, this course teaches how to setup, operate and apply laser shaft alignment to a variety of industrial applications. Topics include: heavy-duty v-belt drives, v-belt selection and maintenance, synchronous belt drives, lubrication concepts, precision shaft alignment, couplings and heavy-duty chain drives. Students will also learn the basics of vibration analysis used to determine when to perform maintenance of power transmission components. Prerequisites: INDM 1100

INDM 1300 Industrial Mechanics III
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:1:3)
Description: This course teaches the bearings and gears used in heavy duty mechanical transmission systems. This course will emphasize bearing mechanics, selection and maintenance. Topics include: plain bearings, ball bearings, roller bearings, anti-friction bearing selection, gaskets and seals and gear drive selection. In addition, this course teaches how to set up, operate and apply laser shaft alignment systems to a variety of industrial applications. Topics

include laser alignment systems, rough alignment, soft foot correction, alignment analysis and operation. Prerequisites: INDM 1200

INDM 1400 Industrial Mechanics IV
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course teaches linear axis drives, clutches, brakes, piping, fittings and valves. Students will learn relevant industrial skills including identifying, sizing, selecting, installation, operation, performing analysis, design, troubleshooting and maintenance as well as installing a variety of types of piping, fittings and valves including iron pipe, steel tubing, hydraulic hose, plastic pipe, copper tubing, globe valves, gate valves, check valves, and Sloan valves. Prerequisites: INDM 1100, 1200, and 1300

INDM 1500 Industrial Pneumatics
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course teaches the fundamentals of pneumatic systems using industrial, agricultural and mobile applications. Students will learn skills in the following areas: safety, basic pneumatic systems design, installation, operation, and performance analysis. Student will also be skilled in more advanced concepts of air logic, ways to decelerate a pneumatic cylinder, how to prevent condensation in a pneumatic circuit, DCV applications, and maintenance.

INDM 1600 Industrial Electrical
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course teaches industry-relevant fundamentals of AC/DC electrical systems used for power and control in industrial, commercial, agricultural, and residential applications as well as commercial and residential applications including single phase AC motors and tree-phase AC electric motors, DC electric motors, and DC generators. Students will learn skills in how to operate, install, analyze performance, select electric machines for various applications, design, and troubleshoot basic AC/DC electrical circuits for various applications.

INDM 1620 Industrial Electronics
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course teaches electronic devices control and power machines used in industries throughout the world, from manufacturing and transportation to energy and construction. Students will learn to operate, adjust, and troubleshoot electronic components, circuits, and systems used in these vital machine applications.

INDM 1715 Applied Technical Math
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course covers the principles of algebra and geometry as they apply to problem solving in the Career and Technical Education (CTE) division programs. It includes the quadratic equation, exponents and radicals, polynomials, constructions of geometric shapes, the circle concept, and applications of volume and shapes.

INDM 1800 Industrial Hydraulics
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course introduces industry-relevant hydraulic skills while showing the fundamentals of the hydraulic principles, hydraulic motors and actuators, and hydraulic formulas such as calculating theoretical pump flow rate. Students learning skills will include: safety, how to operate, install, troubleshoot, analyze performance, and design hydraulic systems. Students will also be skilled in more advanced hydraulics.

INDM 1820 Industrial Pumps
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course teaches a comprehensive set of industry-relevant skills including how to operate, install, maintain, troubleshoot, analyze performance, and select centrifugal pumps as well as system design. Students will learn skills related to centrifugal pumps, which are used in almost every industry to transfer non-hydraulic fluids of various types from one place to another.

INDM 1840 Industrial Rigging
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course teaches a comprehensive set of industry-relevant skills including how to safely move loads of difference shapes and sizes using a variety of methods. Students will learn skills including hoist operation, installation, maintenance, equipment movement, wire mesh slings, synthetic slings, knots, load turning and cranes.

INDM 1900 Industrial Controls and PLC
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course teaches industry-relevant skills including how to operate, interface, program, and troubleshoot Programmable Logic Controller systems for a variety of applications.

INDM 1930 Leadership & Professional Development - Course 1
INDM 2930 Leadership & Professional Development - Course 2
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:1:0)
Description: This is the first course in a series of two courses which will help students gain and improve workplace and interpersonal skills. Professional stewardship, management, and leadership are the foundational topics. Students taking this course will also have the opportunity to participate in the SkillsUSA career and professional leadership organization.

INDM 2800 Special Projects
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1-2:0:3-6)
Description: This course involves a special project where there is a demonstrated need which cannot be met through enrollment in a regularly scheduled course. It also could include special projects of unusual merit in furthering a student's professional and academic goals. Students must be able to sustain and complete independent learning projects. The course provides a framework for developing and enhancing student abilities. The Special Projects Contract must be completed, and will indicate the department through which credit will be awarded. Special projects for one credit can be approved by the advisor, the division dean, and the division representative to the Curriculum

Committee. Projects for more than one credit must be approved by the advisor, division dean, and Curriculum Committee. Credit for a special project normally should be one to two credit hours depending on the work completed, but may be more with approval of the dean and Curriculum Committee. Unless approved in the contract, special project credit may not be used to satisfy general education requirements. Repeatable for credit. (This course is equivalent to GNST 2800.)

MANF 1060 Industrial Print Reading
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course is an introduction to reading and interpreting working drawings and prints for industrial processes and associated trades. Students will receive basic information on blueprints and written documents commonly found in industrial environments. The course is designed to allow the student to develop an understanding of the use of prints and an ability to read and interpret prints found in industrial settings.

MANF 1100 Manufacturing and Automation Technology
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course teaches manufacturing and automation technology providing a complete course of the basic elements of manufacturing and automation and how they affect the world that we live in. This course covers the materials, processes, and management techniques used in the industry. Manufacturing is a managed system that draws upon many resources. Students will explore a number of materials and material processing techniques common to manufacturing.

MANF 1200 Intro to Robotics
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course is an introductory level that will explore many aspects of robotics in a basic and easy-to-understand manner. The key concepts are discussed using a big picture or systems approach that greatly enhances student learning. Many application and operational aspects of equipment and robotic systems are discussed.

MANF 1300 Geometric Dimensioning
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course will provide students with the complete fundamentals of geometric dimensioning and tolerancing concepts which will be introduced to the students in a methodical manner to help ensure that they have a full understanding of every basic concept as they build knowledge toward more advanced application.

MANF 1400 Composites
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course will provide students with both introductory and advanced levels in composites. Students will have comprehensive and hands-on experiences. They will be creating reliable methods and processes for composites, which will help students learn how to find ways to make quality products faster, better, and cheaper.

MANF 1500 Quality Control
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course will provide students with a greater understanding of the complexities of quality improvement efforts and will give the students real-life situations through each application. Emphasis is placed on the practical application of quality principles, interpretations, understanding, and concepts throughout the problem-solving process. Students will have a full understanding of every basic concept as they build knowledge toward more advanced applications in quality control.

MANF 1715 Applied Technical Math
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course covers the principles of algebra and geometry as they apply to problem solving in the Business & Applied Technologies division programs. It includes the quadratic equation, exponents and radicals, polynomials, constructions of geometric shapes, the circle concept, and applications of volume and shapes.

MANF 1930 Leadership & Professional Development - Course 1
MANF 2930 Leadership & Professional Development - Course 2
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:1:0)
Description: This is the first course in a series of two courses which will help students gain and improve workplace and interpersonal skills. Professional stewardship, management, and leadership are the foundational topics. Students taking this course will also have the opportunity to participate in the SkillsUSA career and professional leadership organization.

MANF 2332 Mechanical CAD Drafting (Formerly DRFT 2332)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (4:3:3)
Description: The course will introduce the student to the 3D modeling process and 3D parametric modeling. It will present a process-based approach to mechanical drafting using solid modeling commands, options, and techniques. Students will experience the power of solid modeling with a parametric modeling program, as they complete parts, assemblies and working drawings.

MTT 1000 Survey of Machine Tool Technology
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:1:3)
Description: This is an introductory course for those interested in the world of manufacturing. It emphasizes the machine tool field and includes hands-on activities with metal cutting lathes and milling machines.

MTT 1060 Industrial Print Reading
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course is an introduction to reading and interpreting working drawings and prints for industrial processes and associated trades. Students will receive basic information on blueprints and written documents commonly found in industrial environments. The course is designed to allow the student to develop an understanding of the use of prints and an ability to read and interpret prints found in industrial settings.

MTT 1110 Intro to Precision Machining
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course is for first semester students. It teaches the manufacture of metal parts using machine tool operations. Students learn the theoretical operations of the engine lathe, drill press, pedestal grinder, and vertical milling machine. The course includes lecture, discussion, and demonstrations. Corequisites: MTT 1125

MTT 1125 Intro to Precision Machining Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (5:0:15)
Description: This is a lab course for first semester students. It teaches the manufacture of metal parts using machine tool operations and covers hands-on operations of the engine lathe, drill press, pedestal grinder, and vertical milling machine. Students practice all common operations done on a metal cutting lathe and are introduced to basic introduction of the vertical milling machine. The course includes demonstrations, practical applications, and labs. Those that complete the course should have entry skills for the machine tool industry. Corequisites: MTT 1110

MTT 1210 Intermediate Precision Machining
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course is for second semester students. It covers advanced machining principles dealing with threads, gear cutting, computer numeric control (CNC), basic metallurgy tool building and design, and includes operation theory of band machines, shapers, grinders, and turret lathes. Students improve skills on engine lathes and vertical milling machines. The course uses lectures, discussions, and demonstrations. Prerequisites: MTT 1125, MTT 1150, Corequisites: MTT 1225

MTT 1225 Intermediate Precision Machining Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (5:0:15)
Description: This lab course is for second semester students. It teaches advanced operation of vertical milling machines and introduces operation of horizontal milling machines, grinders, shapers, and turret lathes. The course includes the combining of machine operations for the manufacturing of products and teaches on-call response to customer job demand. The course includes hands-on experience and demonstrations. Prerequisites: MTT 1125, MTT 1150, Corequisites: MTT 1210

MTT 1350 Related Machine Shop Practice
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:6)
Description: This course is for students with majors other than Machine Tool Technology. It presents general information and covers only basic machine tool operation, principally on the engine lathe. The course includes turning, boring, drill bit sharpening, tool bit grinding, taper cutting, facing, hole formation, threading (both internal and external), and simple tool design.

MTT 1715 Applied Technical Math
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course covers the principles of algebra and geometry as they apply to problem solving in the Career and Technical Education (CTE) division programs. It includes the quadratic equation, exponents and radicals, polynomials, constructions of geometric shapes, the circle concept, and applications of volume and shapes.

MTT 1930 Leadership & Professional Development - Course 1
MTT 2930 Leadership & Professional Development - Course 2
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:1:0)
Description: This is the first course in a series of two courses which will help students gain and improve workplace and interpersonal skills. Professional stewardship, management, and leadership are the foundational topics. Students taking this course will also have the opportunity to participate in the SkillsUSA career and professional leadership organization.

MTT 2330 Introduction to Computer Numerical Control
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course is for students seeking careers in CNC programming and operation. It introduces programming techniques such as conversational, G and M Code, and Dyna. Students learn about CAM software and how to generate code for CAM machines. Successful completers should be able to generate a process plan, a tool list, and a working program to produce the part from a print. Corequisites: MTT 2335

MTT 2335 Introduction to Computer Numerical Control Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (5:0:15)
Description: This lab is for students seeking careers in CNC programming and operation. It introduces programming techniques such as conversational, G and M Code, and Dyna. Students learn about CAM software and how to generate code for CAM machines. Successful completers should be able to generate a process plan, a tool list, and a working program to produce the part from a print. Corequisites: MTT 2330

MTT 2430 Computer Numerical Control Operations
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course is for second-year students who want to enhance their programming and operating skills.; It reviews different manufacturing materials and cutting processes. Students learn about industrial computer-aided machining (CAM) software and the process of computer-aided manufacturing.; It emphasizes fixturing and basic machine setups. Prerequisites: MTT 2330 and MTT 2335, Corequisites: MTT 2435

MTT 2435 Computer Numerical Control Operations Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (5:0:15)
Description: This course is for second-year students who want to enhance their programming and operating skills.; It reviews different manufacturing materials and cutting processes. Students learn about industrial computer-aided machining (CAM) software and the process of computer-aided manufacturing.; It emphasizes fixturing and basic machine setups. Prerequisites: MTT 2330 and MTT 2335. Corequisites: MTT 2430

MTT 2716 Machine Tool Mathematics/Measurement
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1:4)
Description: This course consists of the practical application of the concepts learned in MTT 1715. Students will apply mathematic, geometric, and trigonometric concepts to projects in the laboratory environment. Hands-on, practical exercises are the foundation of this course. Prerequisites: MTT 1715

WELDING TECHNOLOGY

WELD 1012 Oxy-acetylene Welding
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:1:3)
Description: This is a course for various trades and community members. This beginning course covers theory and practice of oxy-acetylene fusion welding of sheet steel, including welding, soldering, and braze welding of ferrous and non-ferrous metal. Local industries, farmers, and ranchers use oxy-acetylene equipment to make repairs and fabricate parts.

WELD 1015 Cutting Processes
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:1:3)
Description: This is a course designed for various trades and community members. This course covers theory and practice of oxy-acetylene, carbon arc, oxygen lance, plasma processes and the cutting of ferrous and non-ferrous metal. Local construction, fabrication shops and mining use these processes to make repairs and fabricate parts.

WELD 1020 Shielded Metal Arc Welding
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (4:2:6)
Description: This course is designed for welding technology majors, various trades, and community members. The course is for beginning students interested in learning basic arc welding techniques, theory, and practices, including types of machines, electrodes, and their application. Students study types of joints, expansion and contraction of metals, care and use of tools and equipment, and welding safety.

WELD 1030 Related Oxy-acetylene and Arc Welding
Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (3:1:6)
Description: This course is designed to give students in other programs a background in welding fundamentals that can be used in their career fields. This course will instruct students on the basic skills and principles for oxy-acetylene welding, shielded metal arc welding, gas metal arc welding, and gas tungsten arc welding. Instruction will also be given on shop safety, electrode selection, equipment setup, brazing, soldering, and cutting techniques.

WELD 1220 Intro to GMAW
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:1:3)
Description: This is a course designed for welding technology majors to cover theory and practical hands-on experience with semi-automatic wire-fed machines. Emphasis is on safety and maintenance of equipment, basic fundamentals of each process, mode of transfers associated with gas metal arc welding (GMAW) processes,

electrode selection, gas selection, proper regulator and flow meter calibration. Joint design and equipment troubleshooting will also be discussed.

WELD 1310 Welding Inspection

Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course is for welding technology majors. It presents skills and techniques to assist welders to better perform their duties. Procedure and qualification testing welds and welders are studied. The course covers inspection procedures and includes destructive and non-destructive testing for the various welding defects. Prerequisites: Weld 1020, Corequisites: Weld 2020

WELD 1420 Intro to GTAW

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:1:3)
Description: This course is for welding technology majors. It covers basic fundamentals of gas tungsten arc welding (GTAW) processes.

WELD 1715 Applied Technical Math

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course covers the principles of algebra and geometry as they apply to problem solving in the Business and Applied Technologies (BAT) division programs. It includes the quadratic equation, exponents and radicals, polynomials, constructions of geometric shapes, the circle concept, and applications of volume and shapes.

WELD 1930 Leadership & Professional Development - Course 1
WELD 2930 Leadership & Professional Development - Course 2

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:1:0)
Description: This is the first course in a series of two courses which will help students gain and improve workplace and interpersonal skills. Professional stewardship, management, and leadership are the foundational topics. Students taking this course will also have the opportunity to participate in the Skills USA career and professional leadership organization.

WELD 2020 Advanced ARC Welding

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (4:2:6)
Description: This course will cover preventative maintenance of welding equipment, proper service and troubleshooting of portable engine driven welders and electric powered welding machines. Welding practice is continued with emphasis on multiple pass welding and V groove welding. Qualification tests are offered for horizontal, vertical, and overhead positions throughout the course.
Prerequisites: WELD 1020
Corequisites: WELD 1310

WELD 2210 Blueprints for Welders
Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (5:5:0)
Description: This course studies basic print interpretation and visualization for industrial applications. It includes weld symbols and covers layout techniques from shop drawings to fabrication of sheet metal, plate, pipe, and structural shapes. Lab experience is included.

WELD 2220 Advanced GMAW
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1:6)
Description: This is a course designed for welding technology majors to cover theory and practical hands-on experience with advanced semi-automatic wire-fed machines. Emphasis is on safety and maintenance of equipment, basic fundamentals of each process, mode of transfers associated with gas metal arc welding (GMAW), submerged arc welding (SMA), spool gun and dual feed processes, electrode selection, gas selection and proper regulator and flow meter calibration. Joint design and equipment troubleshooting will also be discussed.
Prerequisites: WELD 1220

WELD 2230 Advanced FCAW
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1:6)
Description: This is a course designed for welding technology majors to cover theory and practical hands-on experience with advanced semi-automatic wire-fed machines. Emphasis is on safety and maintenance of equipment, basic fundamentals of each process, mode of transfers associated with flux core arc welding (FCAW), inner shield, dual shield, electrode selection, gas selection, proper regulator and flow meter calibration. Joint design and equipment troubleshooting will also be discussed.
Prerequisites: WELD 2220

WELD 2300 Welding Fabrication
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1:6)
Description: This course is for welding technology majors. It covers safe setup and operation of shears, break press, iron workers, band saw and drill press. Students will fabricate a project using their knowledge of print reading and layout procedures.
Prerequisites: WELD 2020, WELD 2220, WELD 2210, WELD 1715

WELD 2320 Metallurgy
Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (4:4:0)
Description: Metallurgy is the science that explains the properties, behavior, and internal structure of metals. The course emphasizes welding carbon and alloy steels used with metals, such as cast iron. Discussions and demonstrations are given on various methods of heat treatment and metal properties.

WELD 2420 Advanced GTAW
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (4:2:6)
Description: This course is for welding technology majors. It covers gas tungsten arc welding (GTAW), aluminum, stainless and plate welding processes; i.e., resistance and specialized processes.
Prerequisites: WELD 1420

WELD 2520 Advanced Pipe Welding
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (6:2:12)
Description: This course is for welding technology majors and will cover advanced pipe welding using SMAW and FCAW processes. Welding practice is continued with emphasis on pipe welding using SMAW and FCAW. Qualification tests are offered as part of the course on a variety of positions.
Prerequisites: WELD 2020, WELD 2230

Appendix C: Curriculum Map and Assessment Plan

Snow College Industrial Manufacturing Curriculum Map

Summary:

The program is intended for students interested in working in manufacturing settings as a general manufacturing technician for manufacturing, processing, or other production environments. The Industrial Manufacturing Technology program prepares students to Design/ Develop, install, maintain, diagnose/troubleshoot, and repair complex and integrated manufacturing equipment/systems.

This program is designed to give students a basic knowledge of maintaining and repairing a variety of machines and mechanical systems within manufacturing facilities. Through lecture and practical lab experience students will learn the industrial manufacturing skills needed in today's industry.

As an industrial manufacturing mechanic, students will be Developing, maintaining, and repairing a wide variety of machines, mechanical systems including factory machinery, food processing machinery, textile machinery, transportation equipment, and metal fabrication machinery, simple and complex parts. Students will diagnose mechanical pneumatic, hydraulic, and electrical problems. Students will be working with mathematics, blueprint reading, welding, electronics, and computers.

Students will be required to pass an entrance test with math and reading scores of an appropriate level. If the scores are too low, students will need to plan extra time to remediate those skills upon entering the program.

Outcomes:

Students who complete an AAS degree in Industrial Manufacturing Mechanics Technology will be expected to demonstrate that they have acquired skills/knowledge in the following areas:

1. Manual dexterity – when handling very small parts, workers must have a steady hand and good hand-eye coordination.
2. Mechanical skills – use sophisticated diagnostic equipment for troubleshooting.
3. Technical skills – use sophisticated diagnostic equipment for troubleshooting.
4. Troubleshooting skills – must observe and properly diagnose and fix problems that a machine may be having.
5. Design – must have knowledge of design techniques, tools, and principals involved in production of precision technical plans, blueprints, drawings, and models.
6. Mathematics – knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
7. Judgment and decision making – industrial manufacturing mechanics must have the ability to measure the relative cost and benefits of potential actions to choose the most appropriate decision.
8. Operation and control – controlling operations of manufacturing equipment or system.
9. Critical thinking – use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Program Coursework and Assessment	Knowledge Area: Industrial Manufacturing Technology									
	Manual dexterity – when handling very small parts, workers must have a steady hand and good hand-eye coordination.	Mechanical skills – use sophisticated diagnostic equipment for troubleshooting.	Technical skills – use sophisticated diagnostic equipment for troubleshooting.	Troubleshooting skills – must observe and properly diagnose and fix problems that a machine may be having.	Design – must have knowledge of design techniques, tools, and principals involved in production of precision technical plans, blueprints, drawings, and models.	Mathematics – knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.	Judgment and decision making – industrial manufacturing mechanics must have the ability to measure the relative cost and benefits of potential actions to choose the most appropriate decision.	Operation and control – controlling operations of manufacturing equipment or system.	Critical thinking – use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.	Meets another Program level outcome
Course/Program Outcome	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
MANF 1100: Manufacturing and Automation Tech		X					X	X		MANF
MANF 1200: Introduction to Robotics	X	X		X				X	X	MANF
MANF 1300: Geometric Dimensioning and Tolerancing		X				X			X	MANF/ MTT
MANF 1350: Manufacturing Processes and Design										MANF
MANF 1400: Composites										MANF/ CMP
MANF 1500: Quality Control			X	X		X	X		X	MANF
INDM 1050: Industrial Safety and Basics										MANF/ MTT
MANF 1060: Industrial Blueprint Reading	X		X		X	X	X	X	X	MANF/ MTT/ INDM

INDM 1100: Industrial Mechanics I										MANF/ INDM
INDM 1600: Industrial Electricity										MANF/ INDM
INDM 1800: Industrial Hydraulics										MANF/ INDM
INDM 1900: Industrial Controls & PLC										MANF/ INDM
WELD 1030: Related Oxy-acetylene and Arc Welding										MANF/ WELD
MANF 2332: Mechanical CAD Drafting	X		X		X	X	X	X	X	MANF/ WELD/ MTT
MTT 2435: Computer Numerical Control Operations										MANF/ MTT
MTT 2440: Computer Aided Manufacturing										MANF /MTT

- Blue boxes represent assessment for more than one program.
- Orange boxes represent assessment for this program

Snow College Industrial Mechanics
Curriculum Map

Summary:

This program is designed to give students a basic knowledge of maintaining and repairing a variety of machines and mechanical systems. Through lecture and practical lab experience students will learn the industrial mechanics skills needed in today's industry.

As an industrial mechanic, students will be maintaining and repairing a wide variety of machines, mechanical systems including factory machinery, food processing machinery, textile machinery, transportation equipment, and metal fabrication machinery. Students will diagnose mechanical pneumatic, hydraulic, and electrical problems. Students will be working with mathematics, blueprint reading, welding, electronics, and computers.

Students will be required to pass an entrance test with math and reading scores of an appropriate level. If the scores are too low, students will need to plan extra time to remediate those skills upon entering the program.

Outcomes:

Students who complete an AAS degree in Industrial Mechanics Technology will be expected to demonstrate that they have acquired skills/knowledge in the following areas:

1. Manual dexterity – when handling very small parts, workers must have a steady hand and good hand-eye coordination.
2. Mechanical skills – use sophisticated diagnostic equipment for troubleshooting.
3. Technical skills – use sophisticated diagnostic equipment for troubleshooting.
4. Troubleshooting skills – must observe and properly diagnose and fix problems that a machine may be having.
5. Design – must have knowledge of design techniques, tools, and principals involved in production of precision technical plans, blueprints, drawings, and models.
6. Mathematics – knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
7. Judgment and decision making – industrial manufacturing mechanics must have the ability to measure the relative cost and benefits of potential actions to choose the most appropriate decision.
8. Operation and control – controlling operations of manufacturing equipment or system.
9. Critical thinking – use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Program Coursework and Assessment	Knowledge Area: Industrial Mechanics									
	Manual dexterity – when handling very small parts, workers must have a steady hand and good hand-eye coordination.	Mechanical skills – use sophisticated diagnostic equipment for troubleshooting.	Technical skills – use sophisticated diagnostic equipment for troubleshooting.	Troubleshooting skills – must observe and properly diagnose and fix problems that a machine may be having.	Design – must have knowledge of design techniques, tools, and principals involved in production of precision technical plans, blueprints, drawings, and models.	Mathematics – knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.	Judgment and decision making – industrial manufacturing mechanics must have the ability to measure the relative cost and benefits of potential actions to choose the most appropriate decision	Operation and control – controlling operations of manufacturing equipment or systems	Critical thinking – use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems	Meets another Program level outcome
Course/Program Outcome	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
INDM 1050: Industrial Safety and Basics				X			X	X	X	INDM
INDM 1060: Industrial Blueprint Reading				X	X					INDM
INDM 1100: Industrial Mechanics I	X	X	X	X					X	INDM
INDM 1200: Industrial Mechanics II		X		X						INDM
INDM 1300: Industrial Mechanics III		X	X	X						INDM
INDM 1400: Industrial Mechanics IV		X		X						INDM
INDM 1500: Industrial Pneumatics			X							INDM
INDM 1600: Industrial Electricity		X	X						X	INDM
INDM 1620: Industrial Electronics		X	X							INDM
INDM 1800: Industrial Hydraulics		X	X	X					X	INDM
INDM 1820: Industrial Pumps		X	X	X						INDM
INDM 1840: Industrial Rigging			X				X		X	INDM

INDM 1900: Industrial Controls & PLC		X	X	X				X	X	INDM
BMGT 1700: Strategic Innovation					X					INDM/ BMGT
CHEM 1010: Intro to Chemistry									X	INDM/GE
CHEM 1015: Intro to Chemistry Lab									X	INDM/GE
MTT 1000: Machine Tool Technology	X									INDM/MTT
MTT 1110: Machine Tool I	X									INDM/MTT
MTT 1125: Machine Tool Shop I	X									INDM/MTT
WELD 1020: Shielded Metal Arc Welding	X									INDM/WELD
WELD 2200: Semi-Auto Process/MIG	X									INDM/WELD

Blue boxes represent assessment for more than one program.

Orange boxes represent assessment for this program

Snow College Machine Tool Technology Curriculum Map

Summary:

The machine tool program is designed to give students a basic knowledge of machining skills. Items covered include: math, blueprint reading, conventional lathe and mill operation, feeds and speeds, grinder operation, and the operations of computer numerical control (CNC) lathes and mills. Through lecture and practical lab experience, students can learn the machine tool operation skills needed in today's industry.

Students will be required to pass an entrance test with math and reading scores of an appropriate level. If the scores are too low, students will need to plan extra time to remediate those skills before entering the program.

Outcomes:

Students who complete an AAS degree in Machine Tool Technology at Snow College will be expected to demonstrate that they:

1. Have knowledge of machining skills; i.e., lathe operation, milling machine operations, Computer Numerical Control basics, drilling machines, and other machine shop support equipment.
2. Know machine shop safety and rules of conduct.
3. Have a basic knowledge of quality control, measuring instruments, and blueprint reading.
4. Know basic knowledge of cutters and material metallurgy.
5. Can follow the guidelines and standards as set by industry requirements.
6. Produce quality machined products in a safe, time efficient manner according to required specifications.
7. Have a sense of pride in their skills and abilities.
8. Grow in individual ingenuity and imagination.
9. Acquire the ability to lead and help others grow with them.
10. Have an increase individual self-esteem as they receive recognition from a job well done.

Program Coursework and Assessment	Knowledge Area: Machine Tool Technology										
	Have knowledge of machining skills; i.e., lathe operation, milling machine operations, Computer Numerical Control basics, drilling machines, and other machine shop support equipment.	Know machine shop safety and rules of conduct.	Have a basic knowledge of quality control, measuring instruments, and blueprint reading.	Know basic knowledge of cutters and material metallurgy.	Can follow the guidelines and standards as set by industry requirements.	Produce quality machined products in a safe, time efficient manner according to required specifications.	Have a sense of pride in their skills and abilities.	Grow in individual ingenuity and imagination.	Acquire the ability to lead and help others grow with them.	Have an increase individual self-esteem as they receive recognition from a job well done.	Meets another Program level outcome
Course/Program Outcome	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
MTT 1110: Intro to Precision Machining	X	X	X	X	X						MTT
MTT 1125: Intro to Precision Machining Lab	X	X	X	X	X	X					MTT
MTT 1210: Intermediate Precision Machining	X	X	X	X	X						MTT
MTT 1225: Intermediate Precision Machining Lab	X	X	X	X	X	X					MTT
MTT 2330: Introduction to Computer Numerical Control	X	X	X	X	X						MTT
MTT 2350: Introduction to Computer Numerical Control Lab	X	X	X	X	X	X					
MTT 2430: Computer Numerical Control Operations	X	X	X	X	X						MTT
MTT 2435: Computer Numerical Control Operations Lab	X	X	X	X	X	X					
MTT 2716: Machine Tool Mathematics/Measurement		X	X								MTT
MANF 1060: Industrial Print Reading											MTT/MANF
MANF 1300: Geometric Dimensioning											MTT/MANF

MANF 1500: Quality Control											MTT/MANF
MANF 2332: Mechanical CAD Drafting											MTT/MANF
MTT 1350: Related Machine Shop Practice	X	X	X	X	X						MTT/WELD
WELD 2320: Metallurgy											MTT/WELD

- Blue boxes represent assessment for more than one program.
- Orange boxes represent assessment for this program

Snow College Welding Technology
Curriculum Map

Summary:

This program covers all welding processes commonly used in the fabrication, repair, and construction industries. It is taught by welding on both plate and pipe, and using ferrous and nonferrous materials.

Exact course descriptions and hours for the Welding Technology program match with other state schools and use national and international curriculum and task lists. There has been a working relationship between institutions to accept student hours and credit.

Outcomes:

Students who complete an AAS Welding Technology at Snow College will demonstrate that they:

1. Have a knowledge of welding technology skills; i.e., safety, oxyacetylene welding, cutting, shielded metal arc welding, gas metal arc welding, flux cored arc welding, gas metal arc welding, flux cored arc welding, gas tungsten arc welding, blueprint reading, applied math, metallurgy, electrical safety, etc.
2. Have a knowledge of codes and standards.
3. Have a knowledge of tools used in the trade.
4. Have a knowledge of interpersonal skills.
5. Can demonstrate good safety practices in shop.
6. Complete 80% of skill/task lists for each course.
7. Correctly weld in all positions.
8. Have a sense of pride in their skills and abilities.
9. Understand the need to develop hand-eye coordination.
10. Have a feeling of confidence as they successfully complete required work assignments.

Program Coursework and Assessment	Knowledge Area: Welding Technology										
	Have a knowledge of welding technology skills; i.e., safety, oxyacetylene welding, cutting, shielded metal arc welding, gas metal arc welding, flux cored arc welding, gas tungsten arc welding, blueprint reading, applied math, metallurgy, electrical safety, etc.	Have a knowledge of codes and standards.	Have a knowledge of tools used in the trade.	Have a knowledge of interpersonal skills.	Can demonstrate good safety practices in shop.	Complete 80% of skill/task lists for each course.	Correctly weld in all positions.	Have a sense of pride in their skills and abilities.	Understand the need to develop hand-eye coordination.	Have a feeling of confidence as they successfully complete required work assignments.	Meets another Program level outcome
Course/Program Outcome	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
WELD 1012: Oxyacetylene Welding	X		X		X	X	X	X	X	X	WELD
WELD 1015: Cutting Processes	X		X		X	X		X	X	X	WELD
WELD 1020: Intro to SMAW	X	X	X		X	X	X	X	X	X	WELD
WELD 1220: Intro to GMAW	X	X	X		X	X	X	X	X	X	WELD
WELD 1420: Intro to GTAW	X	X	X		X	X	X	X	X	X	WELD
WELD 2020: Advanced SMAW	X	X	X		X	X	X	X	X	X	WELD
WELD 2220: Advanced GMAW	X	X	X		X	X	X	X	X	X	WELD
WELD 2230: Advanced FCAW	X	X	X		X	X	X	X	X	X	WELD
WELD 2420: Advanced GTAW	X	X	X		X	X	X	X	X	X	WELD
WELD 2210: Blueprints for welders	X	X				X				X	WELD
WELD 2320: Metallurgy	X									X	WELD
WELD 1310: Weld Inspection	X	X	X	X						X	WELD

WELD 2300: Weld Fabrication	X	X	X	X	X	X	X	X		X	WELD
WELD 2520: Advanced Pipe Welding	X	X	X		X	X	X	X	X	X	WELD
WELD 1715: Applied Technical Math										X	WELD
WELD 1930: Leadership & Professional Development Course 1				X						X	WELD
WELD 2930: Leadership & Professional Development Course 2				X						X	WELD
BUS 1020: Computer Technology and Applications										X	WELD
INDM 1600: Industrial Electricity	X	X	X		X					X	WELD/INDM
INDM 1840: Industrial Rigging	X		X		X					X	WELD/INDM
MANF 1060: Industrial Print Reading	X	X				X				X	WELD/MANF
MANF 2332: Mechanical CAD Drafting	X	X				X				X	WELD/MANF
MTT 1350: Related Machine Shop	X		X		X	X				X	WELD/MTT

- Blue boxes represent assessment for more than one program.
- Orange boxes represent assessment for this program

Information Technology Department Review Self-Study

representing courses taught in Computer Information Systems Technology

submitted to Snow College Board of Trustees and the
Utah State Board of Regents
Summer 2019

Reviewed Spring Semester 2019 with the rating of recommended

- Gary Cantrell, Assistant Professor of Computer Science, Southern Utah University
- Janalee Jeffery, Assistant Professor, Mathematics, Snow College

Program Description and Mission Statement

Snow College Computer Information Systems provides an engaging learning environment that prepares students for employment in the computer networking field through current, rigorous, and hands-on learning activities.

Computer Information Systems covers a broad range of career opportunities. You could be a network administrator, network technician, network architect, network engineer, or a network manager. Companies large and small need employees skilled in CIS-related specialties, resulting in extensive options for a successful career.

The beauty of computer information systems is that you can choose your specialty in a demanding career field where there are ample career opportunities to choose from. In Utah the average salary for a Network Administrator is $67,380, a Network Engineer's average salary is $51,400 to $84,500, and a Network Manager's average salary is $44,800 to $72,900.

Visit the Snow College website at www.snow.edu/cis/ to learn more about this program.

Curriculum:

Please see Appendix A for a descriptive list of degrees and course requirements. Appendix B offers a comprehensive list of all currently taught courses. Appendix C provides a curriculum map of courses linked to program learning outcomes.

Student Learning Outcomes

Computer Information Systems Technology

Students who complete a Certificate of Completion or an AAS degree in Computer Information Systems from Snow College will be expected to demonstrate that they:

- Know basic computer skills and the use of a variety of computer programs.
- Know fundamentals of IT Essentials.
- Know fundamentals of networking.
- Know fundamentals of internetworking.
- Know fundamentals of Network management.

- Know fundamentals of databases.
- Know fundamentals of project management.
- Know foundations of Security in Networking.
- Know sound business and/or project management.
- Know rules and regulations that govern their field of expertise.
- Know business ethics and copyright issues.
- Follow good business practices.
- Safely and efficiently perform quality work on computer networking systems.
- Can assemble and run a computer network.
- Understand the role that IT plays in a business infrastructure.

Students

	2014	2015	2016	2017	2018
Number of Graduates	2	10	21	24	9
Certificates	0	0	14	8	5
Associate Degrees	2	10	7	16	4
Bachelor's Degrees	NA	NA	NA	NA	NA
Master's Degrees	NA	NA	NA	NA	NA
Doctoral Degrees	NA	NA	NA	NA	NA
Number of Students	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Total Headcount	21	42	44	55	51
Total Declared Majors	3	35	27	25	45
Total Department FTE	17.6	20.9	24.6	26.7	20.2
Total Department SCH	264.0	312.9	369.0	401.0	303.0
Student FTE/Faculty FTE	16.6	11.2	13.2	12.4	8.6

Source: Snow College Institutional Research

Academic Advising

The general advising of students attending Snow College is conducted through the Student Success Center. The Center employs many advisors who are trained to help with schedules, consult about major and career options, and find financial aid resources to pay for school. In addition, the division funds a special advisor concentrating on career and technical education pathways whom our department has consulted. Lastly, faculty members and part-time instructors in the department often meet with students to discuss their current academic and/or performance needs as well as their future goals.

Faculty

Our faculty consists of two instructors covering coursework offered on the Richfield and Ephraim campuses. Although there is some overlap in responsibilities, each instructor is assigned a specific course and students they have direct responsibility over for the duration of that course. Our faculty and educational credentials are as follows:

- Terrence Coltharp, Department Chair and Networking Instructor
    - AAS in Computer Information Systems, Snow College

    - BS in Network Operations Security, Western Governors University (Expected May 2018)
    - Certifications:
        - CompTIA A+
        - CompTIA Network+
        - CompTIA Project+
        - CompTIA Security+
        - CCENT
        - CCNA
        - Cloud Foundations
        - Linux Foundations
        - Cisco Trainer for IT Essentials through WAN

- Michael Medley, Networking Instructor
    - MBA, California State University San Bernardino
    - BA in Finance, California State University San Bernardino
    - BS in Technology Management, Utah Valley University
    - AAS in Technology Management, Utah Valley University
    - Certifications:
        - CompTIA A+
        - CompTIA Network+
        - Cisco Trainer for IT Essentials
        - Cisco Trainer for Introduction to Networks

We have utilized Snow College IT staff for several years now to cover courses that are related to what they do for the college. This has brought some real-world scenarios into the discussion that we feel enhance those courses. At the time of this report we only have one adjunct instructor.

Justin Cherry works at the college as a network administrator, server manager, and IP Telephone specialist. He has been teaching select courses for the department for several years now and we expect to have him continue in this role. These are the courses that he has been teaching:

- CIS 1125, IT Essentials Instructor
- CIS 1060, IT Project Management Instructor

Faculty Headcount	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
With Doctoral Degrees					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time					
With Master's Degrees					
Full-Time Tenured	1	1	1	1	1
Full-Time Non-Tenured					
Part-Time					
With Bachelor's Degrees					
Full-Time Tenured					

Full-Time Non-Tenured					
Part-Time					
Other					
Full-Time Tenured					
Full-Time Non-Tenured	1	1	1	1	1
Part-Time	3	3	3	3	4
Total Headcount Faculty	4	5	5	5	6
Full-Time Tenured	1	1	1	1	1
Full-Time Non-Tenured		1	1	1	1
Part-Time	3	3	3	3	4
FTE					
Full-Time	0.5	1.3	1.4	1.7	1.83
Teaching Assistants	NA	NA	NA	NA	NA
Part-Time	0.6	0.6	0.5	0.5	0.5
Total Faculty FTE	1.1	1.9	1.9	2.2	2.4

Source: Snow College Institutional Research

Mike Medley – Business and Applied Technologies - Dean load was half during these years. Some courses covered by adjuncts.

Program Support

Cost	2013-2014	2014-2015	2015-2016	2016-2017
Direct Institutional Expenditures	$75,879	$125,843	$122,792	$181,583
Cost Per Student FTE (Annualized)	$8,263	$12,690	$11,695	$9,693
Funding:				
Appropriated Fund	$75,879	$125,843	$122,792	$181,583
Other:				
Special Legislative Appropriation	NA	NA	NA	NA
Grants of Contracts	NA	NA	NA	NA
Special Fees/Differential Tuition	NA	NA	NA	NA

Source: Snow College Institutional Research

Advisory Committee

The following is a list of the advisory committee members, their strategic role on the committee, and their immediate business connection and role.

First Name	Last Name	Strategic Role	Business/Title
Russell	Beutler	Industry/Alumni	Service and Repair at CUES
Jeff	Sirrine	Education	IT Manager, SC Richfield
Justin	Cherry	Industry	Networking and Servers, SC Ephraim
Marlin	Mason	Industry	Networking, Routing, Switching, Security
James	Stanger	Industry/Cert partner	CompTIA, Chief Technology Evangelist

Program Assessment

In accordance with Utah State Board of Regent's policy R411 on the periodic review of educational programs, an on-site visit of Snow College's Information Technology program was conducted Spring Semester 2019. This visit was preceded by a careful reading of the program's self-study document and included a comprehensive tour of current facilities, conversations with students, class visits, and faculty and administration interviews.

Program Strengths

Outlined below are specific commendations about the program

- Learning environment: The current facilities provide a decent variety of practice equipment for the students and made good use of assigned space. This includes adjustments to access for students with different abilities.

- Administrative Rights: It is a great asset to the program that student have administrative rights to all machines. This allows for a large amount of customization and exploration in their environments. This is a great way for students to learning information technology theory applies with practice.

- Curriculum: The program is designed around industry certification requirements which allows for students to be fully prepared to test for very valuable industry certifications.

- Faculty: Program faculty are available to students on both the Ephraim and Richfield campuses. Faculty are professional and maintain a strong connection to their students.

- Articulation: The program's efforts toward articulation agreements with other universities will add additional program options for students: they can immediately enter the workforce or obtain more credential by transferring to four-year programs.

Program Weaknesses/Recommendations:

1. Career Placement: It was recommended that program faculty collect data on students who transfer to four-year programs. It is further recommended that program faculty provide four-year transfer school contact information and provide for guest lecturers or on-site visits with faculty from potential four-year programs.

   Institutional Response: Program faculty will send a survey to each Information Technology graduates bi-annually and update a private, ad hoc database on program graduates and/or transfers. This is planned as an independent study. Program faculty will also work with Snow College advisors to determine the best four-year program contact information and reach out to respective faculty for on-site lectures or student meet-and-greets.

2. Recruitment Plan: It was recommended that the program developed a diverse recruitment plan that includes target audience marketing strategies. An emphasis on program diversity should be the focus of the recruitment plan and classroom instruction.

   Institutional Response: Program faculty are currently working on banners, pamphlets and other materials to showcase the diversity of the Information Technology program. Program faculty will also target non-traditional students and community members to increase the program's diversity.

3. Degree Mapping: It was recommended that the program provide a degree map that delineates how students can navigate the information technology pathway, including all certifications and end-of-program transfer and/or career placement options. It is further recommended that funding be obtained to help offset the student cost for IT certification.

   Institutional Response: Program faculty have already provided an updated degree map to campus advisors. This same document will be made available to all students and will be reviewed in all classes on the first day of Fall Semester 2019. Regional CTE directors and high school pathway coordinators will have copies of the updated document to distribute to potential students in area high schools. In addition, the program purchased Boson software for all certification preparation and signed a contract with CompTIA to purchase certification exams at 50% of cost.

4. Virtual Machines: It was recommended that student administrative rights to physical machines be extended to virtual machines. This provides students a variety of operating systems for applied learning.

   Institutional Response: Program faculty will begin exploring the option of providing student administrative rights on virtual machines.

5. Forensic Investigator: It was recommended that the phrase "computer forensic investigator" be removed from the program's mission statement. Current course offerings do not have a path that is appropriate for this occupation.

   Institutional Response: This mission statement will be re-written and updated in the Snow College Catalog, on-line, and in all program materials.

6. Continuing Education: It was recommended that continuing education for program faculty include at least a conference or similar technology event each year. Information technology is a rapidly changing field and it is important for faculty to be aware of these developments to maintain relevant curriculum and instruction.

   Institutional Response: Faculty update and/or renew their industry certification on an ongoing basis, mostly through continuing education courses. Faculty will research two industry conferences for faculty to attend each year.

Appendix A: Course Requirements Specific to Degree Outcomes

AAS Degree in Computer Networking

Following is the new course pathway for the AAS degree with the addition, modification, or deletion of courses.

Course Prefix and Number	Title	Credit Hours
CIS 1140	Network Essentials	3
CIS 1310	Security Essentials	3
CIS 1125	IT Essentials	3
CIS 1620	Linux Fundamentals	3
CIS 2205	WAN Fundamentals	3
CIS 1200	Intro to Networks	3
CIS 1205	Routing and Switching Essentials	3
CIS 2200	Scaling Networks	3
CIS 2215	Cisco Switch	3
CIS 2210	Cisco Route	3
CIS 2220	Cisco TShoot	3
CIS 1060	IT Project Management	3
CIS 2300	Cisco Wireless Fundamentals	3
CIS 2250	Cisco VoIP	3
GE Course Computation	MATH 1050 College Algebra or AT 1715 Applied Technical Math	3
GE Course Composition	BUS 2200 Bus. Communication or ENGL 1010	3
GE Course Human Relations	GNST 1200 GE Foundations or BUS 1170 Human Relations in Org	3
Elective Courses	12 credits from this approved list	
BUS 1270	Strategic Selling	3
BUS 1020	Computer Technology & Applications	3
BUS 1300	Social Media Marketing	3
BUS 1060	QuickBooks for Small Business	3
BUS 1600	Entrepreneurship Seminar	1
BUS 2650	Management Principles for Entrepreneurs	3
BUS 2222	Entrepreneurship	3
	Total Number of Credits	63

Certificate of Proficiency in Networking

Following are the changes to this certificate that will help prepare students better for entry-level employment and/or advanced computer networking courses.

Course Prefix and Number	Title	Credit Hours
CIS 1140	Network Essentials	3
CIS 1310	Security Essentials	3
CIS 1125	IT Essentials	3
CIS 1620	Linux Fundamentals	3
CIS 1200	Intro to Networks	3
CIS 1205	Routing and Switching Essentials	3
	Total Number of Credits	18

Certificate of Proficiency in Advanced Networking

Following are the changes to this certificate that will help prepare students better for entry-level employment and/or advanced computer networking courses.

Course Prefix and Number	Title	Credit Hours
CIS 2200	Scaling Networks in the Enterprise	3
CIS 2205	Wide Area Networking	3
CIS 2300	Cisco Wireless Networking	3
CIS 2210	Cisco Route	3
CIS 2215	Cisco Switch	3
CIS 2220	Cisco TShoot	3
	Total Number of Credits	18

Appendix B: Computer Information Technology Courses

CIS 1060 Information Technology Project Management

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course is designed to prepare students to manage IT projects from initiation to closure.; Students will gain the fundamentals of project management and will learn the project management process to include topics in planning, execution, project acceptance, management, and support.; Students will learn to manage projects for scope, time, and budget restraints.

CIS 1125 IT Essentials

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course discusses the history, role, and structure of computer architecture and operating systems needed by computers. This course provides and introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level computer technicians.; The curriculum covers the fundamentals of computer hardware and software as well as advanced concepts in security, networking, and computer technician responsibilities. Lab exercises include assembling a computer, laptop, and troubleshooting problems. The course prepares students for the CompTIA A+ certification exam. (Additional fee required)

CIS 1140 Networking Technologies

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: In this course, students will learn the basic concepts and prerequisites of network computing, including hardware, software, topologies, and the Open Systems Interface (OSI) reference model. Additionally, students will install, configure, and troubleshoot computer networking hardware and software.
Prerequisites: CIS 1120 or department approval

CIS 1200 Introduction to Networks

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and network operations. Students will build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. (Additional fee required)

CIS 1205 Routing and Switching Essentials

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality, including topics in troubleshooting routers, switches, RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. (Additional fee required) Prerequisites: CIS 1200

CIS 1310 Network Security Fundamentals

Semesters Offered: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
This course will introduce students to the fundamentals of network security concepts. Students will become familiar with network attackers and their attacks, security basics, network and web security, cryptography, operational security, and policies and procedures related to network security.

CIS 1620 Linux Fundamentals

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course will introduce students to the fundamentals of the Linux OS and Linux networking concepts. Students will become familiar with Linux installation, usage, file system, management of GUI interface and networking processes, troubleshooting, and security. Prerequisites: CIS 1121, CIS 1122, and CIS 1140

CIS 2200 Scaling Networks in the Enterprise

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course describes the architecture, components, and operations of routers and switches in large and complex networks. Students learn how to configure routers and switches for advanced functionality. Students will also be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. (Additional fee required) Prerequisites: CIS 1205

CIS 2205 Wide Area Networking Fundamentals

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network. (Additional fee required) Prerequisites: CIS 2200

CIS 2210 Cisco ROUTE: Implementing IP Routing
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course will teach students how to plan, configure, and verify the implementation of complex enterprise LAN and WAN routing solutions, using a range of routing protocols in IPv4 and IPv6 environments. Students will obtain the knowledge and skills needed to plan, implement, monitor, secure, maintain, and troubleshoot converged enterprise networks. The student will also be able to configure a secure routing solution to support branch offices and mobile workers. Comprehensive labs emphasize hands-on learning and practice to reinforce configuration skills. Prerequisites: CIS 1205

CIS 2215 Cisco SWITCH: Implementing IP Switching
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course teaches students how to implement, monitor, and maintain switching in converged enterprise networks. Students will learn how to plan, configure, and verify the implementation of complex enterprise switching solutions. The course also covers the secure integration of VLANs, WLANs, voice, and video into enterprise networks. Comprehensive labs emphasize hands-on learning and practice to reinforce configuration skills. Prerequisites: CIS 1205

CIS 2220 Cisco TSHOOT: Maintaining and Troubleshooting IP Networks
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course teaches students how to monitor, maintain and troubleshoot complex enterprise routed and switched IP networks. Skills learned include: planning and execution of regular network maintenance, support and troubleshooting using technology-based processes and best practices based on systematic and industry recognized approaches. Extensive labs emphasize hands-on learning and practice to reinforce troubleshooting techniques. Prerequisites: CIS 2210 and CIS 2215

CIS 2250 Cisco VOIP Networking Fundamentals
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: Cisco VOIP Networking Fundamentals teaches students how to maintain and operate a Cisco Unified Communications solution that is based on Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, Cisco Unity Connection, and Cisco Unified Presence. This course provides the students with the knowledge and skills to achieve associate-level competency in Cisco Unified Communications. This course introduces the architecture, components, functionalities, and features of Cisco Unified Communications solutions and describes how daily job tasks, such as system monitoring, moves, adds, and changes are performed on Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, Cisco Unity Connection, and Cisco Unified Presence. Prerequisites: CIS 1205

CIS 2300 Cisco wireless Networking Fundamentals
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course will introduce students to the fundamentals of a Cisco based wireless network. Students will become familiar with wireless network planning, designing, installation, and configuration. Students will become familiar with wireless standards and concepts covering security and troubleshooting. (Additional fee required) Prerequisites: CIS 1205

Appendix C: Curriculum Map and Assessment Plan

Snow College Computer Information Systems Curriculum Map

Summary:

This program includes a variety of courses that are designed to train students with high demand, marketable computer skills. Students receiving an Associate of Applied Science degree will complete courses in Computer Networking, Internetworking, PC Hardware and Software configuration. Each of these skillsets is marketable individually; however, the combination will help set students apart as top candidates for employment in this field.

The networking program focuses on industry leading skills to include CISCO Essentials, Routing and Switching, Wireless Networking, VOIP Networking, Network Security, Internetworking. In addition, the networking program covers Microsoft and Linux operating systems.

Students will gain the knowledge and skills to certify in CISCO, Microsoft, and CompTIA certification domain areas.

Outcomes:

Students who complete a Certificate of Completion or an AAS in Computer Information Systems-Computer Networking from Snow College will be expected to demonstrate that they

1. Know basic computer skills and the use of a variety of computer programs.
2. Know fundamentals of IT Essentials.
3. Know fundamentals of networking.
4. Know fundamentals of internetworking.
5. Know fundamentals of Network management.
6. Know fundamentals of databases.
7. Know fundamentals of project management.
8. Know foundations of Security in Networking.
9. Know sound business and/or project management.
10. Know rules and regulations that govern their field of expertise.
11. Know business ethics and copyright issues.
12. Follow good business practices.
13. Safely and efficiently perform quality work on computer networking systems.
14. Can assemble and run a computer network.
15. Understand the role that IT plays in a business infrastructure.

Program Coursework and Assessment	Knowledge Area: Computer Information Systems															
	Know basic computer skills and the use of a variety of computer programs	Know fundamentals of IT Essentials	Know fundamentals of networking	Know fundamentals of internetworking	Know fundamentals of Network management	Know fundamentals of databases	Know fundamentals of project management	Know foundations of Security in Networking	Know sound business and/or project management	Know rules and regulations that govern their field of expertise	Know business ethics and copyright issues	Follow good business practices	Safely and efficiently perform quality work on computer networking systems	Can assemble and run a computer network	Understand the role that IT plays in a business infrastructure	Meets another program level outcome
Course/ Program Outcome	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
CIS 1125: IT Essentials: PC Hardware and Software	X	X								X			X	X		
CIS 1200: Introduction to Networks			X							X			X	X		
CIS 1205: Routing and Switching Essentials			X							X						
CIS 1310 Network Security Fundamentals				X				X		X	X	X				
CIS 1060: IT Project Management							X		X			X			X	
CIS 1620: Linux Fundamentals			X	X		X				X						
CIS 2200: Scaling Networks in the Enterprise				X	X				X				X			
CIS 2205: Wide Area Networking Fundamentals				X	X			X	X				X			
CIS 2300: Cisco Wireless Networking Fundamentals				X	X			X					X			
CIS 2250: Cisco VOIP Networking Fundamentals				X	X			X					X			

Blue boxes represent assessment for more than one program.

Orange boxes represent assessment for this program

Outdoor Leadership Department Review Self-Study

representing courses taught in Outdoor Leadership and Entrepreneurship

submitted to Snow College Board of Trustees and the
Utah State Board of Regents
Summer 2019

Reviewed Spring Semester 2019 with the rating of recommended

- Bridget Eastep, Ph.D., Director of Outdoor Engagement, Southern Utah University
- English Brooks, Assistant Professor of English, Snow College

Program Description and Mission Statement

The Outdoor Leadership and Entrepreneurship Program at Snow College is a highly field-based program that offers unique learning environments, which are characterized by hands-on learning in small classes where students have the opportunity for close interaction with fellow students, faculty, professionals, and the outdoor environments. Students will leave Snow College with a strong educational foundation and real-world experience in both outdoor leadership and entrepreneurship by participating in a variety of experiences. The Outdoor Leadership and Entrepreneurship Program helps prepares students to successfully start their own outdoor business, enter the outdoor industry workforce, or continue their education.

Outdoor Leadership and Entrepreneurship's mission is to actively engage the future outdoor leader in an environment of innovative learning through meaningful and direct outdoor experiences and interactions with other individuals, groups, and organizations.

Curriculum: Please see Appendix A for a descriptive list of degrees and course requirements. Appendix B offers a comprehensive list of all currently taught courses.

Student Learning Outcomes

Outdoor Leadership and Entrepreneurship

Students who complete the Outdoor Leadership and Entrepreneurship Associates Degree will:

- Communicate effectively in both oral and written contexts.
- Work effectively as a team.
- Apply business principles as they relate to the outdoors.
- Address and assess industry standards and best management practices.
- Apply outdoor skills (which may include basic camping skills, equipment and clothing selection and use, weather, health and sanitation, travel techniques, navigation, technical skills).
- Express theoretical knowledge as it relates to outdoor adventure and then demonstrate critical thinking, judgement and decision making.

- Develop a personal definition of outdoor leadership.
- Apply planning, logistics, and risk management strategies for trip planning/programming.

Students

	2014	2015	2016	2017	2018
Number of Graduates	0	0	2	1	1
Certificates*	0	0	0	0	0
Associate Degrees	0	0	2	1	1
Bachelor's Degrees	NA	NA	NA	NA	NA
Master's Degrees	NA	NA	NA	NA	NA
Doctoral Degrees	NA	NA	NA	NA	NA
Number of Students	2014**	2015**	2016**	2017**	2018**
Total Headcount	74	78	61	109	121
Total Declared Majors	1	3	0	1	3
Total Department FTE	8.5	7.1	9.1	16.0	19.3
Total Department SCH	127.1	106.5	136.5	240.0	289.5
Student FTE/Faculty FTE	7.7	7.9	9.1	14.5	12.9

Source: Snow College Institutional Research

**The three current certificates were approved Spring 2018*

***Annual headcount – Fall even years immersion, Spring headcount higher in some cases*

Academic Advising

The general advising of students attending Snow College is conducted through the Student Success Center in both Richfield and Ephraim. The center employs many advisors who are trained to help with schedules, consult about major and career options, and find financial aid resources to pay for school. The Business and Applied Technologies Division recently funded a part-time adviser for BAT Division students in Ephraim. Department and division leadership meet with advisers regularly to ensure that students receive correct program information.

Faculty

- Whitney Ward, Ph.D., Indiana State University
- Part-time faculty member
- Part-time faculty member

Additionally, faculty members and part-time instructors in the Business Department often meet with students to discuss their current academic and/or performance needs as well as their future goals.

Faculty Headcount	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
With Doctoral Degrees					
Full-Time Tenured					1
Full-Time Non-Tenured	1	1	1	1	
Part-Time					
With Master's Degrees					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time					2
With Bachelor's Degrees					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time					
Other					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time					
Total Headcount Faculty	1	1	1	1	3
Full-Time Tenured					1
Full-Time Non-Tenured	1	1	1	1	
Part-Time					2
FTE					
Full-Time					
Teaching Assistants	NA	NA	NA	NA	NA
Part-Time					
Total Faculty FTE	1.1	.9	1	1.1	1.5

Source: Snow College Institutional Research

Program Support

Cost	2013-2014	2014-2015	2015-2016	2016-2017
Direct Institutional Expenditures	$103,876	$117,035	$108,146	$120,045
Cost Per Student FTE (Annualized)	$15,771	$13,823	$9,715	$11,349
Funding:				
Appropriated Fund	$103,876	$117,035	$108,146	$120,045
Other:				
Special Legislative Appropriation	NA	NA	NA	NA
Grants of Contracts	NA	NA	NA	NA
Special Fees/Differential Tuition	NA	NA	NA	NA

Source: Snow College Institutional Research

Program Assessment

The Outdoor Leadership and Entrepreneurship program was not part of the scope of the most recent Business and Applied Technologies division review.

Self-Assessment

The Outdoor Leadership and Entrepreneurship program regularly takes part in the Snow College assessment day. Several signature and reflective assignments and associated rubrics have been developed to assess student learning and program outcomes.

Program Assessment

In accordance with Utah State Board of Regent's policy R411 on the periodic review of educational programs, an on-site visit of Snow College's Outdoor Leadership and Entrepreneurship was conducted Spring Semester 2019. This visit was preceded by a careful reading of the program's self-study document and included a comprehensive tour of current facilities, conversations with students, class visits, and faculty and administration interviews.

Program Strengths:

- Credentials/Pathway: The OLE Associates Degree and 3 certificates (OLE, Outdoor Skills, and Outdoor Product Design and Development) incorporate high impact practices with nationally recognized training, significant field time, and meaningful interactions with outdoor industry professionals to serve as an example program in Utah's thriving outdoor industry field. The immersion semester is a unique package that brings these strengths together to offer students a once-in-a-lifetime learning opportunity.

  OLE offers industry-recognized training through Leave No Trace, the Wilderness Education Association, and Solo. Students who complete the associate degree and the Outdoor Skills Certificate earn Leave No Trace Trainer certificates, WEA's Outdoor Leadership training, and SOLO's Wilderness First Responder certification. All three trainings are recognized in the outdoor industry and give students a solid skill set to successfully compete for competitive jobs in guiding and outdoor education. WEA's Outdoor Leadership Certificate requires at least 20 days in the field to practice skills. This is taken very seriously, and students accrue significant field time through the outdoor skills courses.

  Students master skills in backpacking, climbing, winter (skiing, ice climbing, backcountry winter travel and camping), and river/water skills. This hands-on time is structured into campus courses and then elevated in the immersion experience. Significant assignments include planning and implementing an expedition on the immersion experience, operating a Haunted House, leading others in the outdoors, and developing business plans.

  Finally, the reviewers were impressed with the caliber and variety of outdoor professionals with whom students interacted with throughout their courses. This includes leaders from Cotopaxi,

Black Diamond, the National Park Service, guiding businesses, the US Forest Service, and the Bureau of Land Management. The immersion students also participated in AORE, a well-respected outdoor recreation and education professional conference that took place in Snowbird last October. The students we interviewed referred to these interactions as opportunities that open their eyes to the many options within the outdoor industry.

- Learning Environment: Snow College's mission and history asks professors to provide a "vibrant learning environment that empowers students to achieve their educational goals, encouraging and supporting innovative initiatives that create dynamic learning experiences….and creating learning and service opportunities locally and globally to engage students, faculty, and staff in surrounding communities." The instruction within OLE exceeds this expectation. Students were and are challenged and supported out of their comfort zone to expand their knowledge and skill base through intentional experiential learning processes. Dr. Ward helps students find their passion for outdoor leadership and is viewed as a valued mentor, role model, and friend.

- National Recognition: As mentioned above in the curriculum discussion, OLE incorporates nationally recognized certificates and trainings into its curriculum. WEA, SOLO, and LNT trainings give students a solid foundation to seek competitive positions after graduating from Snow. The best example we have for this is the success Snow students have had being hired at SUU Outdoors as trip leaders. SUU Outdoors requires trip leaders to have wilderness first aid, outdoor leadership experience, and Leave No Trace skills. When an OLE student applies for a trip leader position, it is rare he or she is not hired due to the solid training recognized throughout the industry.

Program Concerns/Recommendations

1. Great Basin Station Contract: It was recommended that Snow College renew or formalize a close working relationship with the Great Basin Station. Having an outdoor facility for the immersion experience is critical to program rigor and curricular quality. A working relationship with the Great Basin Station has the potential to allow OLE faculty (and perhaps other programs) access to the facility as a teaching/learning space while offering meaningful, feasible ways to maintain the center through project-based, community-oriented, place-based learning. Without the contract or a working relationship, the OLE program has 1.5 years to find a suitable outdoor immersion facility.

   Institutional Response: It would be great to renew the permit with the Forest Service for the Great Basin Station. If this is not a feasible option, the OLE program will seek different opportunities/facilities like the Great Basin Station in order to preserve the immersion and other outdoor leadership course experiences.

2. Marketing: It was recommended that the OLE program provide internal marketing among enrolled students and improve external marketing to potential students. OLE is a unique program that offers an amazing student experience and needs to be promoted to three distinct audiences. First, OLE provides Snow College students a way to incorporate health and wellbeing into their academic schedules. Second, OLE's combination of outdoor leadership and entrepreneurship as an associate degree offers students who want to pursue a profession in the outdoor field a unique

option for a practical education that sets them up to begin their own business or continue their education. Finally, OLE's immersion experience and integrative certificates are unique in the outdoor academic field. Many schools have dissolved their immersion experiences and do less instruction in a field setting in order to be more efficient. OLE serves a unique niche that can serve students seeking such opportunities to transition into higher education. The immersion experience and the certificates can draw students from around the world to experience the best Snow has to offer.

Institutional Response: OLE will continue to utilize high impact practices and provide hands-on experiences. However, more efforts can be made to market and promote the OLE program. A program-specific student ambassador will be utilized starting fall 2019 to visit high schools and support other recruitment opportunities. The program will work with business students to develop marketing materials to raise awareness of OLE opportunities to current students. Faculty will better coordinate with the admissions and academic advisement offices to more consistently promote OLE's degree and curricular opportunities.

3. Program Capacity and Growth: It was recommended that the program fully implement the three certificate programs in order to encourage more students to participate and/or major in the program. This will necessitate and increase to the current instructor pool, which is at capacity with one full-time and two part-time faculty. Program growth potentially creates paid student worker positions that help manage program equipment (even on-campus outdoor equipment rentals) and market program offerings.

   Institutional Response: The addition of student workers and additional faculty will help with program management, provide additional areas of curricular expertise, help with recruitment and retention, and enable the Immersion Experience to be offered each year. Dr. Ward will work with the Snow College Career Center regarding student worker positions and with faculty and administrative leadership on administrative support within the division and program growth targets that support the acquisition of another full-time faculty member.

Appendix A: Course Requirements Specific to Degree Outcomes

Certificate of Proficiency in Outdoor Leadership and Entrepreneurship

Course	Description	GE	Credits
BUS 1010	Introduction to Business		3
BUS 1600	Entrepreneurship Seminars		1
Choose one of the following BUS classes (3 credits)			
BUS 2222	Entrepreneurship		3
BUS 2650	Management Principles for Entrepreneurs		3
BUS 1020	Computer Technology and Applications		3
BUS 1060	QuickBooks for Small Business		3
BUS 1270	Strategic Selling		3
BUS 1300	Social Media Marketing		3
OLE 1000	Introduction to Outdoor Leadership	SS	3
OLE 1010	Outdoor Leadership Business and Careers		3
Choose one of the following (3 credits)			
OLE 1535	Backpacking		3
OLE 2000	Outdoor Skills		3

Certificate of Proficiency in Outdoor Skills

Course	Description	GE	Credits
OLE 1000	Introduction to Outdoor Leadership	SS	3
OLE 1542	Wilderness First Responder		3
Choose one of the following (3 credits)			
OLE 1535	Backpacking		3
OLE 2000	Outdoor Skills		3
Choose two of the following (2 credits)			
OLE 1505	Kayaking		1
OLE 1515	Sailing		1
OLE 1527	Rock Climbing		1
OLE 1635	Backcountry Skiing		1
OLE 1655	Snowshoeing		1
OLE 1660	Winter Camping		1
Choose two of the following (6 credits)			
OLE 2450	Climbing Technical Leadership	IE	3
OLE 2550	Winter Technical Leadership	IE	3
OLE 2650	Ropes Course Technical Leadership	IE	3
OLE 2750	River/Water Technical Leadership	IE	3

Certificate of Proficiency in Outdoor Product Design and Development

Course	Description	GE	Credits
BUS 2050	Business Law		3
HFST 1140	Introductory Sewing		2
HFST 2040	Intermediate Sewing		3
MATH 1040	Elementary Statistics	MA	3
OLE 1000	Introduction to Outdoor Leadership	SS	3
OLE 1010	Outdoor Leadership Business and Careers		3

Associate Degree in Outdoor Leadership

Course	Description	GE	Credits
OLE 1000	Introduction to Outdoor Leadership	SS	3
OLE 1010	Outdoor Leadership Business and Careers		3
OLE 1542	Wilderness First Responder		3
Choose one of the following (3 credits)			
OLE 1535	Backpacking		3
OLE 2000	Outdoor Skills		3
Choose one of the following OLE (3 credits)			
OLE 2450	Climbing Technical Leadership	IE	3
OLE 2550	Winter Technical Leadership	IE	3
OLE 2650	Ropes Course Technical Leadership	IE	3
OLE 2750	River/Water Technical Leadership	IE	3
BUS 1010	Introduction to Business		3
BUS 2222	Entrepreneurship		3
BUS 2650	Management Principles for Entrepreneurs		3
BUS	Any additional 3 credit BUS course		3
BUS 1600	Entrepreneurship Seminars		1

General Education Coursework for the Associate degree

The General Education curriculum is made up of courses that formulate a GE core (which is mandated by the state of Utah) and a selection of course options that fall into several knowledge areas:

General Education Core

- Quantitative Literacy (MATH 1030, 1040, 1050, or 1080)
- American Institutions (ECON 1740, HIST 1700,
- POLS 1000, POLS 1100, HIST 2700, or HIST 2710)
- English (ENGL 1010 and ENGL 2010)

Additional Knowledge Areas (students must complete at least one course in each area)

- Fine Arts
- Humanities
- Social and Behavioral Science
- Physical Science
- Life Science
- Integrated Exploration

Appendix B: Outdoor Leadership and Entrepreneurship Courses

OLE 1000 Introduction to Outdoor Leadership

Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (3:3:0)
General Ed Requirement: Social Sciences
Description: This course focuses on outdoor leadership by introducing and exposing students to the history and various theories of outdoor leadership principles, practices, and ethics. Emphasis is also placed on implementation, evaluation and transference of leadership characteristics beyond an outdoor environment. Students apply leadership skills while planning and implementing a three-day outdoor adventure to be carried out during the semester.

OLE 1010 Outdoor Leadership Business and Careers

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1.5:3)
Description: This course explores the outdoor industry and associated careers. It provides students opportunities with and exposure to a variety of outdoor-related businesses and organizations (private, non-profit, and government). Students will produce outdoor products/services and develop a workable business plan. (Field trips required)

OLE 1505 Kayaking

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:.5:2)
Description: This course introduces the fundamental skills and knowledge in kayaking, including proper use and care of equipment, paddling strokes and techniques, reading water flow patterns on flat- and white-water rivers, safety measures, and self-rescue techniques. Students must pass a swimming test. A field trip is required. This course may be repeated for credit. (Additional fee required).

OLE 1515 Sailing

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:.5:2)
Description: This course addresses sailing theory, sailing nomenclature, parts of the boat, how to launch and retrieve the boat, how to rig and trim the boat for various points of sail. Students will be exposed to various types of sailing boats and experiences, which may include keelboats, catamaran, sailing canoe, dinghies, and boardsailing. (Additional Fee and Field trip required)

OLE 1527 Rock Climbing

Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:.5:2)
Description: This course introduces the fundamental skills and knowledge in rock climbing, including free climbing and safety systems. This course may be repeated for credit. (Additional fee required).

OLE 1535 Backpacking
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:3)
Description: This course provides students an introduction to the fundamental skills and knowledge of backpacking. Students will learn about proper clothing, equipment and use, sheltering, cooking, travel techniques, safety, and Leave No Trace ethics. This course may be repeated for credit. (Additional fee and field trip required.)

OLE 1542 Wilderness First Responder
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:2:2)
Description: This course addresses the practice of advanced wilderness medical techniques and protocols for situations requiring extended patient care and management in remote, backcountry, or wilderness environments with limited resources. SOLO Wilderness First Responder Certification offered with successful completion. (Course fee required.)

OLE 1635 Backcountry Skiing
Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (1:0:3)
Description: This course introduces the fundamental skills and knowledge of backcountry skiing, including proper winter attire and equipment use and care, travel techniques, winter safety, and environmental awareness. (Additional fee required.)
Prerequisites: Permission of Instructor

OLE 1655 Snowshoeing
Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (1:0:3)
Description: This course provides students an introduction to the fundamental skills and knowledge of snowshoeing. Students will learn about proper winter clothing, equipment and use, travel techniques, winter safety, and environmental awareness. (Additional fee required.)

OLE 1660 Winter Camping
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:0.5:3)
Description: This course provides students an introduction to the fundamental skills and knowledge of winter camping. Students will learn about proper winter clothing, equipment and use, sheltering, cooking, travel techniques, winter safety, and environmental awareness. (Additional fee and field trip required.)

OLE 2000 Outdoor Skills
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1.5:3)
Description: This course provides a foundation to outdoor skills in specialized backcountry environments. Topics covered include specialized travel techniques, navigation, teaching, decision making/problem

solving, Leave No Trace Outdoor Ethics, and environment specific camping skills, specialized equipment and clothing selection and use. (Additional fee and field trip required.)

OLE 2200 Expedition Leadership
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:0.5:3)
Description: This course provides an experiential approach in addressing the planning, logistics, and safety and risk management needed to design and implement outdoor expeditions. Emphasis is on development of leadership through sound judgment, decision-making, while instructing in backcountry/wilderness environments. (Additional fee and field trip required.)

OLE 2450 Climbing Technical Leadership
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1.5:3)
General Ed Requirement: Integrated Exploration
Description: This course provides a combination of theoretical background and technical aspects of leading and managing groups in a vertical environment and emphasizes hands-on skill development such as: rope systems, anchors, rappelling and belaying, protection placement, lead climbing, site management, risk management, related emergency procedures, and Leave No Trace Outdoor Ethics. (Additional fee and field trips required)

OLE 2550 Winter Technical Leadership
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1.5:3)
General Ed Requirement: Integrated Exploration
Description: This course provides a combination of theoretical background and technical aspects of leading and managing groups in winter environments, highlighting avalanche awareness, while utilizing specialized hands-on skill development such as snowshoeing, skiing, and ice climbing. It will emphasize specialized clothing/equipment selection, care, and maintenance, equipment nomenclature, technical aspects of avalanche awareness and assessment, backcountry travel and route finding, risk management, and related beacon search and rescue procedures. (Additional fee and field trips required.)

OLE 2600 Adventure Education
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:1:2)
Description: This course provides a theoretical background and hands-on application of adventure education utilizing concepts such as real and perceived risk, sequencing, utilizing peak experiences, leadership styles and development, debriefing, framing, and metaphor use.

OLE 2650 Ropes Course Technical Leadership
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1.5:3)
General Ed Requirement: Integrated Exploration

Description: This course provides a combination of theoretical background and technical aspects of leading and managing groups in a challenge environment and will emphasize hands-on skill development such as spotting/belaying, equipment management selection, and care, program design/sequencing, facilitation strategies, course design and maintenance, risk management, and related emergency procedures.

OLE 2750 River/Water Technical Leadership
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:1.5:3)
General Ed Requirement: Integrated Exploration
Description: This course provides a combination of theoretical background and technical aspects of leading and managing groups in a water environment and will emphasize hands-on skill development such as equipment selection, care, and maintenance, equipment nomenclature, strokes, self and group rescues, reading and recognizing water features/hydrology, site management, risk management, and related emergency procedures. (Additional fee and field trips required.)

Appendix C: Curriculum Map and Assessment Plan

Snow College Outdoor Leadership and Entrepreneurship Curriculum Map

Summary:

The Outdoor Leadership and Entrepreneurship Program at Snow College is a highly field-based program that offers unique learning environments, which are characterized by hands-on learning in small classes where students have the opportunity for close interaction with fellow students, faculty, professionals, and the outdoor environments.

Students will leave Snow College with a strong educational foundation and real-world experience in both outdoor leadership and entrepreneurship by participating in a variety of experiences including internship, certifications, trainings, and instruction.

The Outdoor Leadership and Entrepreneurship Program prepares to successfully start their own outdoor business, enter the outdoor industry workforce, or continue their education.

Outcomes:

Students who complete the Outdoor Leadership and Entrepreneurship Associates Degree will:

1. Communicate effectively in both oral and written contexts.
2. Work effectively as a team.
3. Apply business principles as they relate to the outdoors.
4. Address and assess industry standards and best management practices.
5. Apply outdoor skills (which may include basic camping skills, equipment and clothing selection and use, weather, health and sanitation, travel techniques, navigation, technical skills).
6. Express theoretical knowledge as it relates to outdoor adventure and then demonstrate critical thinking, judgment and decision-making.
7. Develop a personal definition of outdoor leadership.
8. Apply planning, logistics, and risk management strategies for trip planning/programming.

PROGRAM COURSEWORK AND ASSESSMENT	Knowledge Area: Outdoor Leadership and Entrepreneurship								
	Communicate effectively in both oral and written contexts.	Work effectively as a team.	Apply business principles as they relate to the outdoors.	Address and assess industry standards and best management practices.	Apply outdoor skills (which may include: basic camping skills, equipment and clothing selection and use, weather, health and sanitation, travel techniques, navigation, technical skills).	Express theoretical knowledge as it relates to outdoor adventure and then demonstrate critical thinking, judgment and decision-making.	Develop a personal definition of outdoor leadership.	Apply planning, logistics, and risk management strategies for trip planning/programming.	Meets another Program level outcome
Course/Program Outcome	1	2	3	4	5	6	7	8	
OLE 1000: Introduction to Outdoor Leadership	X	X	X	X	X	X	X	X	OLE
OLE 1010: Outdoor Leadership Business and Careers	X	X	X	X					OLE
OLE 1542: Wilderness First Responder				X	X				OLE
OLE 1535: Backpacking *OR*		X		X	X	X		X	OLE
OLE 2000: Outdoor Skills	X	X		X	X	X		X	OLE
OLE 2450: Technical Climbing Leadership		X		X	X	X		X	OLE
OLE 2550: Winter Technical Leadership		X		X	X	X		X	OLE
OLE 2650: Ropes Course Technical Leadership		X		X	X	X		X	OLE
OLE 2750: River/Water Technical Leadership		X		X	X	X		X	OLE
OLE 1505: Kayaking					X				OLE
OLE 1527: Rock Climbing					X				OLE
OLE 1635: Backcountry Skiing					X				OLE
OLE 1655: Snowshoeing					X				OLE

OLE 1660: Winter Camping					X				OLE
OLE 2200: Expedition Leadership		X			X	X		X	OLE
OLE 2600: Adventure Education						X		X	OLE

Services Technology Department Review Self-Study

representing courses taught in Cosmetology/Barbering and Nail Technology

submitted to the Snow College Board of Trustees and the
Utah State Board of Regents
Summer 2019

Reviewed Spring Semester 2019 with the rating of recommended

- Debbie Prichard, Associate Professor of Cosmetology, Utah State University—Eastern
- Adrian Peterson, Assistant Professor, Biology Department Chair, Snow College

Program Mission Statement

Snow College Cosmetology understands the challenges students face learning the skills required to be successful in the beauty industry. Our reputation as South Central Utah's leading hairstyling and nail school is built on over a half century of experience.

Our commitment to providing relevant, cutting-edge courses and programs delivered by top quality instructors ensures a hands-on, inspiring, accessible and supportive learning environment for every student.

We respond to the evolving learning styles and career aspirations of our students with continued educational opportunities for our instructional team. We know that the achievements of our graduates speak directly to the dedication of our faculty and staff.

Snow College exceeds the needs and desires of the beauty salons in the community by educating students to be proficient in areas that surpass licensure requirements and prepare the student for job readiness throughout the country.

Cosmetology/Barbering Program Description

Cosmetology/Barbering/Nail Technology remains a viable and relevant career choice. The future outlook in the beauty service industry continues to look bright. There are many exciting job options available.

The Cosmetology/Barbering Technology program is designed to prepare students for direct employment in cosmetology, barbering salons and/or prepare them to open new salon businesses. This program includes 1600 clock time hours of instruction required by the State of Utah for licensure. Students are prepared to take the National Interstate Council of State Boards of Cosmetology/Barbering Licensure Examination required for licensure in the State of Utah.

Students learn to communicate with customers, analyze skin, hair and nails, perform the duties of men and women hair cutting, coloring, styling, chemical texture services, straight razor shaving, hair extensions, basic skin and nail services and all other services offered in a licensed salon.

Curriculum

This program is intended for students interested in working in cosmetology/barbering salons as a cosmetologist, barber, nail technician, salon manager or business owner. Students earning the AAS Salon Business degree will be prepared to run their own business, execute sales promotions, maintain necessary financial reports and other skills associated with maintaining a successful salon business.

Please see Appendix A for a descriptive list of degrees and course requirements. Appendix B offers a comprehensive list of all currently taught courses. Appendix C is a curriculum and assessment map.

Student Learning Outcomes

Students who complete an A.A.S. in Salon Business at Snow College will be expected to demonstrate that they have knowledge of/and an understanding in the following areas:

- principles and practices related to cosmetology/barbering skills; i.e., shampooing, styling, men and women haircutting, straight razor shaving, hair extensions, chemical texture services, hair coloring, skin care, nail services, and other material essential to becoming a successful cosmetologist/barber;
- State of Utah rules and regulations governing Cosmetology/Barbering;
- related anatomy and physiology;
- assess salon work areas and practices, recognize potential safety hazards and implement accepted methods to mitigate those hazards;
- writing coherent reports and document client results;
- assess present conditions and determine the action needed to obtain desired client outcomes based on a critical analysis of situations;
- work effectively both individually and with others through class projects and client services through lab experiences;
- communicate in electronic, verbal and written formats;
- deal professionally and ethically with clients, the public and co-workers;
- relevant business practices and the requirements of a successful operation commonly found in cosmetology/barbering establishments.

Nail Technology Program Description

Nail technology continues to grow within the business of beauty. This course will give you an opportunity to specialize in nails within the Cosmetology industry.

Students will receive 300 hours of education in both theory and practical experience in many phases of manicuring, pedicuring and the application of artificial nails. This course may be completed in one semester. Students are prepared to take the National Interstate Council of State Boards of Nail Technology Licensure Examination required for licensure in the State of Utah.

Student Learning Outcomes

Students who complete the Nail Technology program at Snow College will be expected to demonstrate that they have knowledge of/and an understanding in the following areas:

- principles and practices related to nail technology skills; i.e., manicuring, pedicuring, gel, fiberglass, and acrylic application, manual and electric filing, polishing, client consultation and other material essential to becoming a successful nail technician;
- State of Utah rules and regulations governing Nail Technology;
- related anatomy and physiology;
- assess salon work areas and practices, recognize potential safety hazards and implement accepted methods to mitigate those hazards;
- assess present conditions and determine the action needed to obtain desired client outcomes based on a critical analysis of situations;
- work effectively both individually and with others through class projects and client services through lab experiences;
- deal professionally and ethically with clients, the public and co-workers;
- relevant business practices and the requirements of a successful operation commonly found in nail salon establishments.

Students

	2014	2015	2016	2017	2018
Number of Graduates	4	8	8	8	11
Cosmetology Certificates	0	3	5	5	9
Associate Degrees	4	5	3	3	2
	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Cosmetology Headcount	43	37	32	33	41
Total Declared Majors	33	38	31	34	24
Total Department FTE	42.4	32.8	21.9	27.4	29.6
Total Department SCH	636.0	492.0	328.5	411.5	444.5
Student FTE/Faculty FTE	14.9	11.6	9.0	10.8	9.1
Nail Technology Headcount	22	13	7	6	8
Nail Technology Certificates	20	12	7	5	8

Source: Snow College Institutional Research

State requirements changed in 2014-2015 from 2000 hours to 1600 hours

Utah DOPL testing results	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Practical Barber/Cosmetology Pass	6	10	15	13	9
Fail	3	2	1	2	2
Repeat Pass	3	1	1	2	2
Written Barber/Cosmetology Pass	9	12	14	10	10
Practical Nail Technician Pass	6	4	5	3	4
Fail	0	0	0	0	1
Repeat Pass	0	0	0	0	0
Written Nail Technician Pass	6	4	5	3	5

Source: Utah Division of Occupational and Professional Licensing

Academic Advising

The general advising of students attending Snow College is conducted through the Student Success Center. The Center employs advisors who are trained to help with schedules, consult about major and career options, and find financial aid resources to pay for school. However, faculty members and part-time instructors in the cosmetology/barbering/nail technology department often meet with students to discuss their current academic and/or performance needs as well as their future goals.

Faculty

Cosmetology/Barbering

- Teri Mason, Instructor, Cosmetology/Barbering; A.A.S., Snow College; Sevier Valley Tech; Full-time Faculty; Department Chair
- Chad Price, Instructor, Cosmetology/Barbering; A.A.S., Snow College; Evans Hairstyling College; Full-time Faculty
- Amanda Wood, Instructor, Cosmetology/Barbering; Evans Hairstyling College; Part-time Faculty

Nail Technology (new instructional design spring 2019)

- Sheri Thompson, Instructor, Cosmetology/Barbering, Nail Technology, Snow College, Part-time
- Devanae Robinson, Instructor, Cosmetology/Barbering, Nail Technology, Snow College, Part-time

Faculty Headcount	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Full-Time Professional Track	2	2	2	2	2
Part-Time	2	1	1	2	1
Total Headcount Faculty	4	3	3	4	3
FTE					
Full-Time	2.1	2.5	2.1	2.1	2.6
Part-Time	0.8	0.3	0.3	0.4	0.7
Total Faculty FTE	2.9	2.8	2.4	2.5	3.3

Source: Snow College Institutional Research

Cosmetology courses are assigned to full-time faculty members, and the part-time faculty member helps team teach. Nail courses are assigned to a specific part-time instructor.

Program Support

Cost	2014	2015	2016	2017
Direct Institutional Expenditures	$215,339	$213,321	$220,958	$241,526
Cost Per Student FTE (Annualized)	$12,109	$10,968	$10,526	$14,833
Funding:				
Appropriated Fund	$215,339	$213,321	$220,958	$241,526
Other:	NA	NA	NA	NA

Source: Snow College Institutional Research

Program Advisory Committee:

The advisory committee meets bi-annually and discusses the current curriculum for that semester. They advise on areas that need improvement as they observe new hires from Snow College. Any changes to the state licensing process is reviewed and any legislature items concerning the Cosmetology/Barbering/Nails profession is discussed. Competition accomplishments of the students is emphasized. Members consist of alumni, salon owners, managers and stylists from surrounding counties, along with school representatives, and the cosmetology/barbering/nail instructors. Current members are:

Toni Smith	Scruples Educator and owner of Spruce Moose	Monroe
Julia Jensen	Owner of The Works	Richfield
Hailey Christensen	Manager of Smart Styles Walmart	Richfield
Darin Pili	Owner of Sharp Image	Ephraim
Stacie Goble	Owner of Shear Style	Mt. Pleasant
Rylie Fautin	Owner of Wild Roots	Marysvale
Doug Mortensen	Doug's Barber Shop	Richfield
Martha Zabriskie	Small Town Hair	Fountain Green
Pam Erickson	Tint and Taper Salon	Loa

Program Assessment

In accordance with Utah State Board of Regent's policy R411 on the periodic review of educational programs, an on-site visit of Snow College's Cosmetology/Nail Services program was conducted Spring

Semester 2019. This visit was preceded by a careful reading of the program's self-study document and included a comprehensive tour of current facilities, conversations with students, class visits, and faculty and administration interviews.

Program Strengths:

Outlined below are specific commendations for the program.

- Faculty: Cosmetology faculty are well-skilled in traditional and modern hair style practices and exhibit professionalism in their dress and the way they interact with students and clients. Faculty have started to use Scruples training to standardize their teaching and provide students with common industry terminology. Faculty are also involved in campus leadership, serving on or assisting with various committees or campus projects. Students report a feeling of family with the faculty and fellow students. They are comfortable coming to the faculty for help with both school, work, and other concerns.

- Curriculum: The implementation of the MindTap program has enhanced student learning by providing dynamic access to training videos and learning tracking software. In addition, the partnership public education continues to provide "fast-track" career training to local junior and senior high school students, who can complete part of their training prior to high school graduation.

- Salon Facility: recent renovations are a benefit to the facility. This includes recovering current salon chairs and dedicated space for a barbering station. The nail salon is well-designed with a smaller desk used to make appointments. The leveraging of vacated building space supports program improvement with a comfortable facial room equipped with two beds.

- Marketing: The program's innovative approach to marketing includes a very successful Fashion Fusion Show, which has now outgrown current space capacity. The show allows students to demonstrate their overall learning and skills (like a capstone experience) while providing the community with an entertaining evening of hairstyle and fashion. Students can also exhibit their work, expertise, fill appointments, and garner new clients through a well-organized social media presence.

Program Weaknesses/Recommendations:

1. Faculty: It was recommended that the program seek additional faculty and/or staff support. At least one additional part-time employee is needed or one of the current part-time positions needs to be increased to a full-time professional track position. The additional instruction/staff would allow for the lead instructor to be a full-time program administrator. This would keep more instructors on the floor with students and keep the department informed of college updates.

   Institutional Response: Currently, the program has three licensed instructors, two of which are full-time, and one is part-time. The part-time faculty addition has supported the implementation of events like the Fashion Show and other student activities on the Richfield and Ephraim campuses. This instructor also provides theory and lab instruction on a rotating basis, which has allowed the

full-time instructors opportunities to participate in campus leadership and/or /professional development activities. It is anticipated that at the completion of the associate degree, this part-time instructor can be made full-time. With interest for a salon on the Ephraim campus as well as the development of an Esthetics program (Richfield), current faculty will work on a budget proposal for overall program expansion that includes the additional full-time faculty position.

2. MindTap Program Savings: It was recommended the program investigate a combined purchase of the MindTap software for greater cost savings. Currently, software costs for the program include a two-year license for $254.00 per student.

   Institutional Response: Business and math students pay $120 per semester for Cengage Unlimited, which includes general use of MindTap but does not offer access to Cosmetology/Barbering texts and/or media. Communication with the MindTap representative revealed that the Cosmetology/Barbering software is not sold in a block with other programs or by semester. It is only offered as a two-year license. The department is mindful of costs passed onto students; it is atop consideration when selecting resources.

3. Ephraim Salon: In an effort to improve enrollment and visibility of the program, it was recommended that a space be created on the Ephraim campus to allow for a small salon to operate 2-3 days each week. This would also benefit the students that live in Sanpete county by limiting travel at least part of the time.

   Institutional Response: The future of the Cosmetology/Barbering program looks very strong. The development of a satellite program has raised concerns for program over-saturation. However, current enrollment and interest suggest that a salon on the Ephraim campus will help the program growth. To open a campus salon, the college would need to have space available that has access to water, power and ventilation. The salon would need to be staffed by an instructor and possibly a student employee receptionist. A budget would need to be approved for equipment, supplies, and salaries. The Ephraim salon will be beneficial for both campuses. It potentially provides needed hair services and easy accessibility to the general student population, while providing cosmetology students access to a bigger, more diverse clientele. Instruction at the Ephraim salon would be lab only. The current vision is to have the salon open 2-3 days per week. Instructors and students would rotate to the salon from Richfield. A client would get the same quality haircut and the student the same instruction no matter regardless of salon location.

4. Fashion Fusion Show: It was recommended that this capstone event be held on the Ephraim campus to enhance program visibility and increase fundraising capital. It is further recommended that additional funds be earmarked to provide better scholarships and support program recruitment.

   Institutional Response: At this time, faculty and program leadership feel that production on the Ephraim campus is premature. The current show is still in its development. Replicating the show to Ephraim would mean models required a greater time commitment (two full days over one full day) from students, models, and support staff. In addition, many of the costs associated with the

production on two campuses would outweigh the current proceeds. Meanwhile, current students and faculty are willing to commit better efforts toward advertising the event to Ephraim students and the Sanpete county community.

5. Scholarships: It was recommended that additional scholarship money be dedicated toward awards for continuing students. It is further recommended that faculty work with the Snow College Development office to use money earned from the fashion show to build private scholarship funds.

   Institutional Response: Faculty understand that critical role scholarships play with high school seniors (potential students) to encourage them to continue their education and obtain their degree at Snow College. Faculty will encourage students to utilize Snow College's new option, BadgerTracks, as a concurrent enrollment-to-college scholarship opportunity. Faculty will also work with the Development office to have money awarded for a scholarship while developing and market the fashion show as a bigger community event and recruiting tool. Faculty will also work with the Development office in finding private donors that fund private Cosmetology/Barbering scholarships. This scholarship will be generated by funds from the fashion show and a fundraiser associated with the event.

6. Esthetics Program: It was recommended that faculty develop a proposal for a full-service esthetics program.

   Institutional Response: Snow College's Cosmetology/Barbering program is the only program of its kind within 100 miles in every direction. Students that complete the program and desire to continue their pathway/employment in the beauty industry must transfer to another long-distance program to complete the credentials of Master Esthetician. A Master Esthetician is licensed to work in a spa setting and/or dermatology offices. This is a growing industry and businesses such as Elevate and Cedar Dermatology have opened in the last two years in Richfield, each of which employ Master Esthetician. Faculty will develop a proposal and budget plan to include this curricular expansion to the program within the next five years.

7. Initial and reinforced training: It was recommended that the curriculum provide for an initial training period or opportunities to reinforce basic training using specific class periods throughout the program.

   Institutional Response: During 2018-2019 emphasis was placed on changes in the PSI State Board exam, for which a bi-monthly class focused on the specific techniques and requirements to pass the new exams. Faculty plan to increase class offerings from bi-monthly to weekly. The additional classes will focus on reviewing the basic techniques taught during the basic classes. When the State of Utah changed cosmetology/barbering clock hours from 2000 to 1600, basic class adjustments were made to expedite the salon time of basic students. Hands on exposure with clients is one of the best forms of training from which students receive one-on-one instructions. Adding bi-monthly basic review classes in tandem with the bi-month State Board exam prep classes will benefit students and strengthen the program.

8. Facial Room: It was recommended that the chairs in the facial room be replaced.

   Institutional Response: The facial chairs will be replaced upon approval of our Perkins fund request for 2019-2020.

9. Continuing Education: It was recommended that continuing education and other similar professional development activities be pursued by faculty to help solidify the standardization of industry terminology and techniques. There is an opportunity to expand this opportunity to local salon owners using Snow College's office of Community Education.

   Institutional Response: Currently, students in the basic class are taught using the Milady Standard 2016 edition (which updates every 5 years) and Scruples' Cutting by Design techniques. As they begin to move to the salon lab, they learn different advanced terms and techniques. The cosmetology/barbering industry is forever changing, and faculty/staff continue to attend applied training classes on current trends. As trends change, so does terminology. Faculty will continue to provide students with the knowledge and skills associated with the most current elements of hair and nail technology. Faculty will also improve efforts to more consistently offer classes to local stylists using Snow College's Community Education program. Where possible, these classes are offered on-line or at off-site locations and taught by program alumni.

Appendix A: Course Requirements specific to degree outcomes

Cosmetology/Barbering

recommended courses for licensure

Course	Description	Credits
COSB 1000	Basic Cosmetology Theory	4
COSB 1005	Basic Cosmetology Lab	5
COSB 1015	Basic Barbering Lab	4
COSB 1100	Basic Barbering Theory	3
COSB 1200	Cosmetology/Barber Sciences	1.5
COSB 1201	Cosmetology/Barber Procedures	1.5
COSB 1205	Intermediate Cosmetology Lab	6
COSB 1215	Intermediate Barbering Lab	4
COSB 2300	Principles of Cosmetology/Barbering	1.5
COSB 2301	Disciplines of Cosmetology/Barbering	1.5
COSB 2305	Advanced Cosmetology Lab	6
COSB 2315	Advanced Barbering Lab	4
COSB 2505	Cosmetology Capstone	2

General Education and Business Courses

recommended to complete the AAS Salon Business degree

Course	Description	Credits
Human Relations		2
COSB 1910	Professional Development	1
COSB 1920	Professional Development	1
Computation		3
AT 1715	Applied Technical Math or	3
MATH 1050	College Algebra or	3
BUS 1060	QuickBooks for Small Business	3
Composition		3
ENGL 1010	Expository Composition or	3
BUS 2220	Business Communication	3
Computer		3
BUS 1020	Computer Technology/Applications	3
8 Credits from the following courses		
BUS 1010	Intro to Business	3
BUS 1060	QuickBooks for Small Business	3
BUS 1110	Digital Media Tools	4
BUS 1270	Strategic Selling	3
BUS 1300	Social Media Marketing	3

COMM 1500	Intro to Mass Media	3
BUS 1600	Entrepreneurship Seminars	1
BUS 2650	Management Principles	3

Nail Technology Courses

Course	Description	Credits
COSB 1810	Theory of Nail Technology	4
COSB 1811	Nail Technology Practicum	6

Appendix B: Services Technology Courses

COSB 1000 Basic Cosmetology Theory

Semester(s) Taught: Fall, Spring, Summer
Credits, Lecture hours, Lab hours: (4:4:0)
Description: This theory course (formerly COSB 1001) presents basic cosmetology practices, demonstrations of technical procedures, practical application of cosmetology skills, and identifies the responsibilities of the cosmetologist. Critical thinking skills will also be developed. Students will demonstrate competency through written tests and skills pass-off working on mannequins. This course prepares students for working with the public in the salon lab. This course is part of a required series to prepare students to take the National Interstate Council of State Boards of Cosmetology Licensure Examination (NIC test). Students must be accepted into the Cosmetology/Barbering program to take this course. Corequisites: This course must be taken concurrently with COSB 1005, COSB 1015, COSB 1100

COSB 1005 Basic Cosmetology Lab

Semester(s) Taught: Fall, Spring, Summer
Credits, Lecture hours, Lab hours: (5:0:15)
Description: This lab course with the Basic Barbering Lab course are the main lab components for the COSB 1000 series. Lab instruction and practice are an integral part of this program. Practice and lab experiences include shampooing, scalp and hair treatments, manicuring, pedicuring, artificial nails, haircutting, hairstyling, permanent waving, chemical relaxing, facials, makeup application, hair coloring, hair lightening, shaving, waxing, and hair extension applications. Corequisites: COSB 1000, COSB 1015, and COSB 1100

COSB 1015 Basic Barbering Lab

Semester(s) Taught: Fall, Spring, Summer
Credits, Lecture hours, Lab hours: (4:0:12)
Description: Lab instruction and practice are an integral part of this program. This course covers practical experience with shampooing, scalp treatments, manicuring, haircutting, hairstyling, facials, massage, care and styling of hairpieces, and shaving with an emphasis on all men specific services. Corequisites: This course must be taken concurrently with COSB 1000, COSB 1005, COSB 1100

COSB 1100 Basic Barbering Theory

Semester(s) Taught: Fall, Spring, Summer
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course presents barbering theory for the following subjects: history of barbering, barber implements, tools and equipment, shaving and facial design, men's styling, and haircutting. Corequisites: This course must be taken concurrently with COSB 1000, COSB 1005, and COSB 1015

COSB 1200 Cosmetology/Barber Sciences

Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course presents cosmetology/barbering theory for the following subjects: history of cosmetology, infection control, general anatomy and physiology, skin and nail structure and growth, properties of hair and scalp, and basics of chemistry. This is a block course and must be taken with COSB 1201, COSB 1205, and COSB 1215. Prerequisites: COSB 1000, COSB 1100, COSB 1005, and COSB 1015; Corequisites: COSB 1201, COSB 1205, and COSB 1215

COSB 1201 Cosmetology/Barber Procedures

Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course presents cosmetology/barbering theory for the following subjects: basics of electricity, principles of hair design, haircutting, braiding and extensions, wigs, hair coloring, skin diseases, facial makeup, and nail diseases. Prerequisites: COSB 1000, COSB 1005, COSB 1015, COSB 1100 Corequisites: This course must be taken concurrently with COSB 1200, 1205, and 1215

COSB 1205 Intermediate Cosmetology Lab

Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (6:0:18)
Description: Lab instruction and practice are an integral part of this program. This course covers principles and practices of manicuring, pedicuring, nail diseases and disorders, massage, facials, facial makeup, skin disorders and diseases, and removal of unwanted hair by tweezing and waxing, hair extension application, shampooing, draping, finger waving, roller sets, thermal curling, braiding, hair coloring, hair lightening, chemical relaxing, care of wigs, hairstyling, permanent waving, and haircutting. This course has a service-learning component. Prerequisites: COSB 1000, COSB 1005, COSB 1015, COSB 1100; Corequisites: COSB 1200, COSB 1201, COSB 1215

COSB 1215 Intermediate Barbering Lab

Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (4:0:12)
Description: Lab instruction and practice are an integral part of this program. This lab course provides practical experience with shampooing, scalp treatment, manicuring, pedicuring, application of nail enhancements, haircutting, hairstyling, permanent waving, chemical relaxing, facials, esthetic procedures, hair extension applications, finger waving, roller sets, thermal curling, hair coloring, and hair lightening. This course has a service-learning component. This course has a $50.00 lab fee. This fee is nonrefundable. Prerequisites: COSB 1000, COSB 1005, COSB 1015, COSB 1100; Corequisites: COSB 1200, COSB 1201, COSB 1205

COSB 1305 Cosmetology Practical Lab
Semester(s) Taught: Summer
Credits, Lecture hours, Lab hours: (4:0:12)
Description: Lab instruction and practice are an integral part of this program. This course covers practical experience with shampooing, scalp treatments, manicuring, haircutting, hairstyling, chemical hair texture services, facials, massage, care and styling of hairpieces, hair coloring, hair lightening, shaving and haircutting.

COSB 1315 Barbering Practical Lab
Semester(s) Taught: Summer
Credits, Lecture hours, Lab hours: (4:0:12)
Description: Lab instruction and practice are an integral part of this program. This course covers practical experience with shampooing, scalp treatments, manicuring, haircutting, hairstyling, chemical hair texture services, facials, massage, care and styling of hairpieces, haircoloring, hair lightening, shaving and haircutting, with an emphasis on all men specific services.

COSB 1519 Cosmetology/Barbering Lab
Semester(s) Taught: Fall, Spring, Summer
Credits, Lecture hours, Lab hours: (1-6:0:3-15)
Description: Lab instruction and practice are an integral part of this program. This course covers principles and practices of manicuring, pedicuring, application of nail enhancements, facials, facial makeup, removal of unwanted hair by tweezing and waxing, hair extension application, shampooing, draping, finger waving, roller sets, thermal curling, braiding, hair coloring, hair lightening, chemical relaxing, care of wigs, hairstyling, permanent waving, and haircutting. Repeatable for credit. Prerequisites: With instructor approval

COSB 1715 Applied Technical Math Soon to be AT 1715
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course covers the principles of algebra and geometry as they apply to problem solving in the Career and Technical Education (CTE) division programs. It includes the quadratic equation, exponents and radicals, polynomials, constructions of geometric shapes, the circle concept, and applications of volume and shapes.

COSB 1810 Theory of Nail Technology
Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (4:4:0)
Description: This course covers principles and concepts of the nail technology profession, including: manicuring, pedicuring, sanitation, disorders and diseases of the skin and nails, body chemistry, product safety, related anatomy and physiology, methods of artificial nail applications, problem solving, professional ethics, business management, and state laws. Corequisites: COSB 1811

COSB 1811 Nail Technology Lab

Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (6:0:16)
Description: Lab instruction and practice are an integral part of this program. Practice and lab experiences include client consultation; manicuring; pedicuring; application of nail tips, wraps, and acrylic; polishing techniques; nail art; and salon management.; A $50.00 lab fee includes; a one-time rental of a state board testing kit. This fee is non-refundable.
Corequisites: COSB 1810

COSB 1910 Professional Development - Course 1

Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (1:1:0)
Description: This course is designed to prepare the student for the job market, learning skills in time management, goal setting, ethics and professional dress. The importance of working and communicating with others, personal financial skills, community service and resume writing skills are emphasized.

COSB 1920 Professional Development - Course 2

Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (1:1:0)
Description: This course is the second in a series of courses designed to deal with employment opportunities, public speaking, job application, and employment portfolios, focusing on mentoring, job search, leadership skills and being a good salon team player.

COSB 2300 Principles of Cosmetology/Barbering

Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This theory course covers in-depth principles and practices of the following subjects; ethics, history and opportunities, hygiene, bacteriology and infection control, general anatomy and physiology, skin structure and growth, ;nail structure and growth, properties of the hair and scalp, and basics of chemistry.
Prerequisites: COSB 1000, COSB 1005, COSB 1100, COSB 1015, COSB 1200, COSB 1201, COSB 1205, COSB 1215; Corequisites: COSB 2301, COSB 2305, COSB 2315

COSB 2301 Disciplines of Cosmetology/Barbering

Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This theory course covers in-depth principles and practices of the following subjects: electricity, electrotherapy, light therapy, philosophy of hair design, haircutting techniques, braiding and braid extensions, wigs and hair enhancements, hair coloring, skin diseases and disorders, facial makeup, and nail diseases and disorders. Prerequisites: COSB 1000. COSB 1005, COSB 1015, COSB 1100, COSB 1200, COSB 1201, COSB 1205, COSB 1215; Corequisites: COSB 2300, COSB 2305, COSB 2315

COSB 2305 Advanced Cosmetology Lab

Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (6:0:18)
Description: Lab instruction and practice are an integral part of this program. This course provides in-depth practical experience with shampooing, scalp treatments, manicuring, haircutting, hairstyling, permanent waving, facials, massaging, esthetic procedures, hair extension applications, care and styling of wigs, hair coloring, chemical relaxing, hair lightening, retail sales, appointment booking, and phone skills.; Students perform services in a salon setting. This course has a service learning component. A $100.00 lab fee includes; a one-time rental of a state board testing kit. This fee is non-refundable. Prerequisites: COSB 1000. COSB 1005, COSB 1015, COSB 1100, COSB 1200, COSB 1201, COSB 1205, COSB 1215 Corequisites: COSB 2300, COSB 2301, COSB 2315

COSB 2315 Advanced Barbering Lab

Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (4:0:12)
Description: Lab instruction and practice are an integral part of this program. This course provides in-depth practical experience with shampooing, scalp treatments, manicuring, pedicuring, nail enhancements, haircutting, hairstyling, permanent waving, facials, massaging, esthetic procedures, hair extension applications, care and styling of wigs, hair coloring, chemical relaxing, hair lightening, retail sales, appointment booking, and phone skills.; Students perform services in a salon setting. The course has a service learning component. Prerequisites: COSB 1000 COSB 1005, COSB 1015, COSB 1100, COSB 1200, COSB 1201, COSB 1205, COSB 1215, Corequisites: COSB 2300, COSB 2301, COSB 2305

COSB 2505 Cosmetology/Barbering Capstone

Semester(s) Taught: Fall, Spring, Summer
Credits, Lecture hours, Lab hours: (2:0:6)
Description: Lab instruction and practice are an integral part of this program. This capstone course allows students to complete the last 1-100 hours of the mandated 1600 clock hours by the State of Utah. Students are prepared to take the National Interstate Council of State Boards of Cosmetology Licensure Examination (NIC test) and apply for licensure. Prerequisites: Must have Instructor approval

COSB 2519 Advanced Cosmetology/Barbering Lab

Semester(s) Taught: Fall, Spring, Summer
Credits, Lecture hours, Lab hours: (1-6:0:3-15)
Description: Lab instruction and practice are an integral part of this program. This course covers practical experience with shampooing, scalp treatments, manicuring, pedicuring, nail enhancements, haircutting, hairstyling, permanent waving, facials, massaging, esthetic procedures, hair extension applications, care and styling of wigs, hair coloring, chemical relaxing, hair lightening, retail sales, appointment booking, and phone skills. Students perform services in a salon setting. Repeatable for credit. Prerequisites: COSB 1000, COSB 1005, COSB 1015, COSB 1100, COSB 1200, COSB 1201, COSB 1205, COSB 1215

COSB 2709 Cosmetology/Barbering/Nail Technology Student Instructor
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (8-16:2:16)
Description: This course prepares the student for state examinations as a Cosmetology/Barbering/Nail Technology instructor. It includes experience in teaching theory and lab. The State of Utah requires 1000 hours of instruction in preparation for licensing as an instructor. The department chairperson's permission is required prior to enrolling. Students must have at least one year of work experience as a licensed cosmetologist/barber before taking this course. Instructor licensure requirements are such that a student will be required to take this course at least twice. Repeatable for credit. Prerequisites: Cosmetology/Barbering License and one year of work experience

Snow College Services Technology Curriculum Map

Summary:

The Cosmetology/Barbering Technology program is designed to prepare students for direct employment in cosmetology, barbering salons and/or prepare them to open new salon businesses. This program includes 1600 clock time hours of instruction required by the State of Utah for licensure. Students are prepared to take the National Interstate Council of State Boards of Cosmetology/Barbering Licensure Examination required for licensure.
Students learn to communicate with customers, analyze skin, hair and nails, perform the duties of hair cutting, coloring, styling, chemical texture services, basic skin and nail services and all other services offered in a salon.

The Snow College Cosmetology/Barbering Technology program is unique. A Snow College student has the following options:

1. Earn 1600 hours for licensure purposes only.
2. Earn a Certificate of Completion in Cosmetology/Barbering Technology.
3. Earn an A.A.S. degree in Salon Business.
4. Specialize in Nail Technology.

Outcomes:

Students who complete an AAS in Salon Business at Snow College will be expected to demonstrate that they have knowledge of/and an understanding in the following areas:

1. (COSB) Principles and practices related to cosmetology/barbering skills; i.e., shampooing, styling, men and women haircutting, straight razor shaving, hair extensions, chemical texture services, haircoloring, skin care, nail services, and other material essential to becoming a successful cosmetologist/barber.
1. (Nails) Principles and practices related to nail technology skills, i.e. manicuring, pedicuring, gel, fiberglass, and acrylic application, manual and electric filing, polishing, client consultation and other material essential to becoming a successful nail technician.
2. State of Utah rules and regulations governing Cosmetology/Barbering and/or Nail Technology.
3. General sciences, i.e., anatomy, infection control, hair structure, skin and nail diseases and disorders, chemistry and electricity.
4. Assess salon work areas and practices, recognize potential safety hazards and implement accepted methods to mitigate those hazards.
5. Writing coherent reports and document client results.
6. Assess present conditions and determine the action needed to obtain desired client outcomes based on a critical analysis of situations.
7. Work effectively both individually and with others through class projects and client services through lab experiences.
8. Communicate in electronic, verbal and written formats through records, quizzes and exams.
9. Deal professionally and ethically with clients, the public and co-workers.
10. Relevant business practices and the requirements of a successful operation commonly found in cosmetology/barbering establishments.

PROGRAM COURSEWORK AND ASSESSMENT	Knowledge Area: Services Technology											
	Principles and practices related to cosmetology/barbering skills; i.e., shampooing, styling, men and women haircutting, straight razor shaving, hair extensions, chemical texture services, haircoloring, skin care, nail services, and other material essential to becoming a successful cosmetologist/barber.	Principles and practices related to nail technology skills; i.e., manicuring, pedicuring, gel, fiberglass, and acrylic application, manual and electric filing, polishing, client consultation and other material essential to becoming a successful nail technician;	State of Utah rules and regulations governing Cosmetology/Barbering.	General sciences, i.e., anatomy, infection control, hair structure, skin and nail diseases and disorders, chemistry and electricity.	Assess salon work areas and practices, recognize potential safety hazards and implement accepted methods to mitigate those hazards.	Writing coherent reports and document client results.	Assess present conditions and determine the action needed to obtain desired client outcomes based on a critical analysis of situations.	Work effectively both individually and with others through class projects and client services through lab experiences.	Communicate in electronic, verbal and written formats.	Deal professionally and ethically with clients, the public and co-workers.	Relevant business practices and the requirements of a successful operation commonly found in cosmetology/barbering establishments.	Meets another Program level outcome
Program Outcome	1 COSB only	1 NAILS only	2	3	4	5	6	7	8	9	10	
COSB 1000: Basic Cosmetology Theory	X				X				X			COSB
COSB 1005: Basic Cosmetology Lab	X				X							COSB
COSB 1015: Basic Barbering Lab	X				X							COSB
COSB 1100: Basic Barbering Theory	X		X	X	X				X			COSB
COSB 1200 Cosmetology/Barber Sciences			X	X					X			COSB
COSB 1201: Cosmetology/Barber Procedures			X	X					X			COSB
COSB 1205: Intermediate Cosmetology Lab	X				X		X	X		X	X	COSB

COSB 1215: Intermediate Barbering Lab	X				X		X	X		X	X	COSB
COSB 2300: Principles of Cosmetology/Barbering			X	X					X			COSB
COSB 2301: Disciplines of Cosmetology/Barbering			X	X					X			COSB
COSB 2305: Advanced Cosmetology Lab	X				X		X	X		X	X	COSB
COSB 2315: Advanced Barbering Lab	X				X		X	X		X	X	COSB
COSB 2505: Cosmetology Capstone			X									COSB
COSB 1810: Theory of Nail Technology	N/A	X	X	X		X				X	X	COSB/ NAILS
COSB 1811: Nail Technology Practicum	N/A	X			X		X	X				COSB/ NAILS
COSB 1910/1920 Professional Development Levels 1 & 2						X			X	X		COSB
Fashion Fusion Runway Project								X	X			COSB

Orange boxes represent assessment for this program

Assessment Notes:

Assessment uses a pass/fail rubric (see attached). Utah state licensing requires a 75% pass rate on the practical and written licensing exams. This is our benchmark. Our program target is a 75% pass rate for each student. For each of the assessment measures associated with the rubric, the goal is to have 80% of all students achieve a 75% (state benchmark) or higher pass-rate.

Assessment on all practical work is done on skill pass-off sheets, on a daily, weekly and monthly basis (examples included). Practical exams are given at the conclusion of each semester.

Assessment on all theory chapters is done with an exam at the conclusion of each chapter. Mid-term and final written exams are also used for assessment.

Assessment of communication and professionalism skills (outcomes 5, 8, and 9) uses written assignments completed in the Professional Development classes and objective-judged scores from the Fashion Fusion Runway Project

Transportation Technology Department Review Self-Study

representing courses taught in Automotive Technology and Diesel Heavy Duty Mechanics Technology

submitted to Snow College Board of Trustees and the
Utah State Board of Regents
Summer 2019

Reviewed Spring Semester 2019 with the rating of recommended

- Scott Hadzik, Department Chair, Automotive Technology, Weber State University
- Kyle Rowley, Assistant Professor, Engineering, Snow College

Department Description and Mission Statement

The Snow College Transportation Departments goal is to provide the learning opportunities and skill sets students need to be entry-level technicians in the automotive and diesel industries. The Snow College Automotive and Diesel Programs were merged into the Transportation Technology Department in 2012, since that time significant work has been done to align the curriculum, share instruction, create common course numbering, create new courses, obtain new equipment, and much more to become a cohesive multi-program department. The Snow College Automotive Technology program is accredited through the ASE Education Foundation and the Diesel Technology Program is currently involved in the accreditation process.

The professors and instructors in the Transportation Technology Department are highly educated, industry certified, and professionally trained individuals. Each instructor must complete a minimum of 20 hours of automotive or diesel related training each year to maintain our ASE Education Foundation accreditation. They provide an excellent, and difficult to achieve, balance of lecture, class time, and “hands on” lab work to provide the best experience and learning environment for our students. The instructors incorporate service learning by doing live work on vehicles for members of the local communities. Through small class sizes, high student expectations, live work, direct and personal contact with the instructors, and a high level of dedication from the faculty, our students are able to enter the automotive and diesel industries ready to work and obtain a high level of success.

Automotive Technology Program

As one of the premier Automotive Technician Training Schools in Utah, accredited by the ASE Education Foundation, Snow College offers its’ courses based on the Automotive Service Excellence (ASE) certification areas. Including:

- Electrical/Electronic Systems
- Suspension and Steering
- Brakes
- Manual Transmissions/Transaxles & Drive Trains
- Heating and Air Conditioning

- Engine Repair
- Automatic Transmissions and Transaxles
- Engine Performance

Students have two options. (1) They may obtain Certificates of Proficiency or, (2) an Associate of Applied Science degree in Automotive Technology.

The program is designed to give students an in-depth knowledge of repairing and maintaining automobiles. Students who complete the program can expect a career in a variety of automotive fields including becoming a technician, service manager, shop foreman, service consultant, a parts technician with the option of working in a dealership, an independent repair shop, or your own business.

Diesel Heavy Duty Mechanics Technology Program

As one of the premier Diesel and Heavy-Duty Technician Training Schools in Utah, Snow College offers its courses based on the Automotive Service Excellence (ASE) certification areas. Including:

- Electrical/Electronic Systems
- Suspension and Steering
- Brakes
- Transmissions and Drive Trains
- Heating and Air Conditioning
- Engine Repair
- Preventative Maintenance
- Hydraulics
- Fuel Systems
- Emissions Systems

Students have two options. (1) They may obtain Certificates of Proficiency or, (2) an Associate of Applied Science degree in Diesel Technology.

Diesel technicians have a wide variety of opportunities to apply their trade. With so many heavy-duty machines powered by Diesel, the field for this expertise is vast. After completing the Diesel and Heavy-Duty Mechanics program, students can expect rewarding careers as Diesel technicians in light duty and heavy-duty trucking, mining equipment, off highway equipment, excavating machinery, construction equipment, trains, ships, etc. With the right training and credentials, you have countless opportunities ahead of you for a worthwhile job.

Curriculum: Please see Appendix A for a descriptive list of degrees and course requirements. Appendix B offers a comprehensive list of all currently taught courses. Appendix C presents a map of courses to program student learning outcomes.

Student Learning Outcomes

Automotive Technology

Students who complete an AAS degree or specific courses in any or all of the eight ASE areas in Automotive Technology at Snow College will be expected to demonstrate that they,

1. Students will complete lab tasks outlined by the Automotive Service Excellence Education Foundation (ASEED). They will complete 100% of priority one, 80% of priority two, and 60% of priority three tasks.
2. Students will learn the operation, function, diagnosis, and repair of internal combustion engines and their related fuel, ignition, and emissions systems.
3. Students will learn electrical theory including, the operation and function of electrical circuits, electrical components, and the diagnosis and repair of these circuits.
4. Students will learn the operation, function, diagnosis, and repair of components used in the drivetrain of automobiles, i.e.: transmissions, transaxles, transfer cases, differentials, etc.
5. Students will learn the operation, function, diagnosis, and repair of components used in the suspension and braking systems of automobiles.
6. Students will learn the operation, function, diagnosis, and repair of components used in the heating and air conditioning systems found in automobiles.
7. Upon graduation students will be prepared to take ASE certification tests to assist them in gaining quality employment in their desired field.

Diesel Heavy-Duty Mechanics Technology

Students who complete an AAS degree in Diesel & Heavy-Duty Mechanics Technology will be expected to demonstrate that they

1. Students will complete lab tasks outlined by the Automotive Service Excellence Education Foundation (ASEED). They will complete 100% of priority one, 80% of priority two, and 60% of priority three tasks.
2. Students will learn the operation, function, diagnosis, and repair of internal combustion engines and their related fuel, and emissions systems.
3. Students will learn electrical theory including, the operation and function of electrical circuits, electrical components, and the diagnosis and repair of these circuits.
4. Students will learn the operation, function, diagnosis, and repair of components used in the drivetrain of trucks and heavy-duty equipment, i.e. transmissions, transaxles, transfer cases, differentials, etc.
5. Students will learn the operation, function, diagnosis, and repair of components used in the suspension and braking systems of trucks and heavy-duty equipment.
6. Students will learn the operation, function, diagnosis, and repair of components used in the heating and air conditioning systems found in trucks and heavy-duty equipment.
7. Upon graduation students will be prepared to take ASE certification tests to assist them in gaining quality employment in their desired field.

Students (Automotive and Diesel Heavy-Duty Mechanics Technologies, combined)

	2014	2015	2016	2017	2018
Number of Graduates	5	8	53	40	30
Certificates	0	0	44	32	24
Associate Degrees	5	8	9	8	6
Bachelor's Degrees	NA	NA	NA	NA	NA
Master's Degrees	NA	NA	NA	NA	NA
Doctoral Degrees	NA	NA	NA	NA	NA
Number of Students	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
Total Headcount	82	79	111	105	127
Total Declared Majors	31	62	20	58	66
Total Department FTE	48.0	48.6	58.7	54.6	53.2
Total Department SCH	720.0	729.0	880.5	819.0	798.0
Student FTE/Faculty FTE	14	14	17	16	15

Source: Snow College Institutional Research

Academic Advising

The general advising of students attending Snow College is conducted through the Student Success Center. The Center employs many advisors who are trained to help with schedules, consult about major and career options, and find financial aid resources to pay for school. The department chair and faculty members also meet with the students to discuss their current academic and/or performance needs as well as their future goals to set up an appropriate course of study.

Faculty

- Brent Reese, Department Chair, Associate Professor
  Associate of Science, Merced Community College
  Bachelor of Science, Technology Education - Southern Utah University
  ASE Master Automobile Technician, L1 Advanced Engine Performance Certification

- Robert Gary, Diesel Program Chair, Instructor
  Associate of Applied Science, Dixie State College
  ASE Master Automobile Technician, Graduate, General Motors University of Automotive Management

- Justin Morgan, Instructor
  Associates of Science, Snow College
  Bachelor of Science, Technology Education, Valley City State University

Faculty Headcount	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
With Doctoral Degrees					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time					
With Master's Degrees					
Full-Time Tenured					
Full-Time Non-Tenured					
Part-Time					
With Bachelor's Degrees					
Full-Time Tenured	1	1	1	1	1
Full-Time Non-Tenured	1	1	1	1	1
Part-Time					
Other					
Full-Time Tenured					
Full-Time Non-Tenured	1	1	1	1	1
Part-Time					
Total Headcount Faculty	3	3	3	3	3
Full-Time Tenured	1	1	1	1	1
Full-Time Non-Tenured	2	2	2	2	2
Part-Time					
FTE					
Full-Time					
Part Time Lab Assistants	1	1	1	1	1
Part-Time					
Total Faculty FTE	3.5	3.5	3.5	3.5	3.5

Source: Snow College Institutional Research

Program Support

Cost	2013-2014	2014-2015	2015-2016	2017-2018
Direct Institutional Expenditures	$233,618	$188,288	$277,701	$293,743
Cost Per Student FTE (Annualized)	$6,180	$7,801	$7,438	$7,019
Funding:				
Appropriated Fund	$233,618	$188,288	$277,701	$293,743
Other:				
Special Legislative Appropriation				
Grants of Contracts				
Special Fees/Differential Tuition				

Source: Snow College Institutional Research

Advisory Committees

Automotive Technology

Name	Company	Title
Cassidy Schear	Fixed Operations Manager	High Country Auto
Jacob Christensen	Technician, High Country Auto	former student
Nathan Polelonema	Fixed Operations Manager	Jorgensen Ford
Jay Moosman	Technician	Jorgensen Ford
Kyle Musselman	Technician	Jorgensen Ford, former student
Jim Hare	Owner Operator	Red Hills Truck and Auto
Gary Brian	Owner Operator	Brian Auto
Wayne Connelly	Service Manager	Freedom Ford
Ben Schoppe	Ag. Instructor	Manti HS
Jennifer Christensen	CTE Director	Central Utah

Diesel and Heavy-Duty Mechanics Technology

Name	Company	Title
Beth Miya	Cummins Sales and Service-SLC	Technical Support Manager
Brent Moosman	Warner Truck- Freightliner	Service Manager in Salina
Ben Romney	Wheeler Machinery-SLC	Vice Pres. Product Support
Ronald Dimmick	Cummins Sales and Service-SLC	Dealer Account Executive
Dave VanDyke	Kenworth Sales and Service	Service Manager-Salina
Delton Koehn	Staker Parsons	Shop Manager-Redmond
Dustin Shakespear	Sevier County School District	Counselor
Jennifer Christensen	Sevier County School District	CTE Director
Josh Mejeur	Eaton Powertrain	Western Region Manager
Heidi Stringham	Snow College	Asst. to the President
Josh Allan	Jackson Group- Peterbilt	Service Manager- Salina
Kelly Crofts	Barney Trucking	HR Director
Kent Mickelsen	Wheeler Machinery	Product Support Manager
LaFaun Barnhurst	Snow College	BAT Division Dean
Malcolm Nash	Six County Economic Dev.	Director
Troy Fulmer	Meritor Heavy Vehicle Systems	District Manager
Michael Medley	Snow College	CTE Director
Chris Thatcher	Barney Trucking	Technician

Program Assessment

The Automotive and Diesel programs base their assessment on the ASE Education Foundation required task lists for each subject area. All students are required to complete certain percentages of these tasks and the completion of these tasks verifies that the learning outcomes are met. The results are reviewed each Spring and when low completions are noted the instructors revise the curriculum to improve the

learning opportunities and understanding for the students. Results of these assessments are on file with the department chair and with the institutional research office.

Students will be assessed by passing the ASE Student Certification tests. These tests are similar to the full ASE certification tests, but designed specifically for students enrolled in technical training programs. The results will be collected on the ASE website, www.na3sa.org.

In accordance with Utah State Board of Regent's policy R411 on the periodic review of educational programs, an on-site visit of Snow College's Automotive Technology and Diesel and Heavy-Duty Mechanics program was conducted Spring Semester 2019. This visit was preceded by a careful reading of the program's self-study document and included a comprehensive tour of current facilities, conversations with students, class visits, and faculty and administration interviews.

Automotive Technology

Program Strengths:

- Student Experience: In general, students are very pleased with the curriculum, instruction, and facilities associated with instruction. Students commended the organization and clarity of the brakes-systems lab book. They felt that the book was laid out in such a way that they could easily find the appropriate tasks and associated worksheets for each lab activity. Students would like to see more consistency in the other lab books. Students mentioned the value they found in the textbook requirements for the program. They were pleased with the price and quality of the Cengage content.

- Workforce Preparation: Students commended the organization of the shop and the availability of tools and equipment. The shop equipment is in good repair and well maintained. They felt like the quantity and quality of tools available to them was appropriate. They requested more generic scan tools and work done to maintain and update the factory specific tools. Students, generally, seemed to have a good understanding of the various automotive subject areas. Students seemed confident in all areas covered by NATEF MLR standards. Electrical and Electronic systems seemed to be their weakest area, specifically CAN and other types of bus communication. A weakness in electrical and electronic systems corresponds to national trends in automotive education.

Diesel and Heavy-Duty Mechanics Technology

Program Strengths:

- Student Experience: Students are pleased with their education, interaction with faculty, and the facilities. Students seemed to benefit from the incorporation of automotive courses in the areas that have similar systems to Heavy Duty. Several students suggested adding curriculum that focused on equipment repair; such as agricultural or construction equipment. If feasible adding additional content or partnering with the agricultural mechanic program is recommended in order to expose those students who are interested in equipment repair.

- Workforce Preparation: Students feel prepared to enter the workforce with the skills they have developed during their educational experience. Students, generally, seemed to have a good understanding of the various diesel subject areas. More emissions related equipment should continue to be incorporated into the curriculum as the equipment becomes available. The recent purchase of the truck with modern emissions is commendable. Funding should be prioritized to repairing the current Heavy-Duty Truck dynamometer. This piece of equipment would help students to understand diagnostics under load as well as emissions related content.

- Program Leadership: Adding Bob Gary as program chair has improved equipment procurement and standards for course content.

Program Recommendations:

1. Lab Workbooks: It was recommended that lab workbooks be updated to more closely model those found in the automotive technology program.

   Institutional Response: This has been discussed and the preferred lab books reviewed by the instructors, we will be soliciting student input to make the most effective and useful updates for the needed classes. This will be implemented and adopted for the Fall 2019 semester.

2. NATEF Certification: It was recommended that the program continue to add NATEF related tasks and lab activities to the curriculum.

   Institutional Response: We use the basic ASE Education Foundation task lists and add to them based on input from the advisory committee. Due to a lack of appropriate material in the areas of computerized fuel systems and emissions control systems we have created two additional classes for the Diesel Technology AAS degree, DMT 1801/1805 Fuel Systems and DMT 2801/2805 Emissions Control Systems. These classes offer extend information and lab tasks above and beyond the basic ASE Accreditation requirements.

3. Dynamometer: It was recommended that the program find funding to purchase a dynamometer, which will help students understand diagnostics under load as well as emissions-related content.

   Institutional Response: We have requested funding from the college, from Perkins grants, and are working on the possibility of obtaining other forms of grant money.

4. Electrical and Electronic Systems Instruction: It was recommended that faculty find ways to incorporate electrical system content in all courses, including making curricular adjustments to increase the amount of time students spend working on electrical and electronic systems.

   Institutional Response: We currently cover the operation and diagnostics of electrical and electronic systems relevant to the area studied in, Auto 1601/1605, 2601/2605, 1801/1805, 2801/2805, 1201/1205, 1501/1505, 1401/1405, DMT 1801/1805, 2801/2805, 1501/1505,

1301/1305, and 2701/2705. As vehicles become increasingly more automated and computerized, the need for students to understand the operation and diagnosis of electronic systems becomes important. The ways faculty determine additions to the curriculum needs include, specialized instructor training, adoption and use of current texts, updated ASE Education Foundation task lists, and input from the advisory committees. We add these new electrical and electronics components to the curriculum each time the relevant course is taught.

5. Diesel Emissions Content: It was recommended that faculty continue to add content related to modern diesel emission systems, including system identification, operation, and diagnostics.

   Institutional Response: Due to a lack of appropriate material in the areas of computerized fuel systems and emissions control systems we have created two additional classes for the Diesel Technology AAS degree, DMT 1801/1805 Fuel Systems and DMT 2801/2805 Emissions Control Systems. These classes offer extend information and lab tasks above and beyond the basic ASE Accreditation requirements. We continue to add curriculum and content to these courses based on instructor training and industry needs.

6. Faculty Contact Hours: It was recommended that faculty and associated academic leadership review the amount of contact hours faculty spend with students each week. This may require adjustments to faculty load to no exceed the contact hours associated with other state programs.

   Institutional Response: No response was provided.

7. Industry Certifications: It was recommended that Justin Morgan receive relevant industry certifications. This should be a program priority.

   Institutional Response: Justin has recently completed training from Osh-Kosh and from Cat and is currently looking for additional training in engines and hydraulics in preparation for the Fall 2019 semester. We have reached agreements with several manufacturers to offer their online training, (i.e. Peterbilt, Cummins, Freightliner, etc.) that can be used by instructors and students.

8. Course Development: It was recommended that a course be developed focused on body communication and computer-controlled systems, moving the electronics content from AUTO 1660 into this new course.

   Institutional Response: The restructure of Auto 1600 will help this. Body communication and computer-controlled systems are heavily covered in Auto 2601/2605, Auto 2801/2805, and DMT 1801/1805. The faculty do not feel that a new course is justified to cover this information; however, we plan to review the content and possibly add to it where we deem it needed.

9. Engine Repair: It was recommended that Engine Repair be reorganized to free up credits hours for advance electrical instruction. It was further recommended that the course be removed from the required credits for the AAS degree.

   Institutional Response: We discussed reducing the credit hour requirements for this class in the past and we are planning on pursuing it next school year. We are going to complete many of tasks as a "group unit" instead of each student individually completing each task. This will reduce the lab time required yet still introduce the students to the content and fulfill the required accreditation tasks. ASE Education Foundation accreditation still requires content and tasks for automotive engine repair, and after recent conversations with them, they do not plan on removing it soon. If it is required for accreditation the faculty agree that it should remain a requirement for the AAS degree and a core course for the Automotive program.

10. Student Learning Outcomes Assessment: It was recommended that faculty use ASE Entry Level Certification tests in a pre-test/post-test format to determine student learning outcome achievement.

    Institutional Response: In our current outcome assessments, we already use the ASE Entry Level tests in both the Automotive and Diesel programs. Each Spring the college pays for the students to take the ASE Entry Level tests for the courses they completed that school year. We use the results in our outcome assessment and for Perkins Grant funding third party testing justifications.

11. Division Organization: It was recommended that the division re-align programs, adding computer science and engineering under an Applied Technology division. Such organization would put the division in closer alignment with the other in-state institutions.

    Institutional Response: This is up to administration; however, it is heavily supported by the faculty in all the skilled trades programs. Our first choice would be the creation of a separate skilled trades division, but the other options could be worked out as well.

Appendix A: Course Requirements specific to degree outcomes

Automotive Technology

Students may obtain an Associate of Applied Science in Diesel and Heavy-Duty Mechanics Technology or obtain certificates of proficiency in the following areas.

- Engine Performance
- Engines and Hydraulics
- Chassis and Electrical Systems
- Drivetrain and Climate Control

Course	Description	Credits
AUTO 1000	Automotive Safety and Basics	1
AUTO 1101	Auto Engine Repair Lecture	2
AUTO 1105	Auto Engine Repair Lab	3
AUTO 1201	Auto Automatic Trans. & Transaxles Lecture	2
AUTO 1205	Auto Automatic Trans. & Transaxles Lab	3
AUTO 1301	Auto Manual Trans. & Transaxles Lecture	2
AUTO 1305	Auto Manual Trans. & Transaxles Lab	3
AUTO 1401	Auto Suspension & Steering Lecture	2
AUTO 1405	Auto Suspension & Steering Lab	3
AUTO 1501	Auto Brakes Lecture	2
AUTO 1505	Auto Brakes Lab	3
AUTO 1600	Auto Electrical & Electronics I	5
AUTO 1715	Applied Technical Math	3
AUTO 1801	Auto Fuel, Emissions, & Ignition Systems Lecture	3
AUTO 1805	Auto Fuel, Emissions, & Ignition Systems Lab	2
AUTO 1930	Leadership & Professional Development-Course 1	1
AUTO 2601	Auto Electrical & Electronics II Lecture	4
AUTO 2605	Auto Electrical & Electronics II Lab	2
AUTO 2701	Auto Heating and Air Conditioning Lecture	2
AUTO 2705	Auto Heating and Air Conditioning Lab	2
AUTO 2801	Auto Engine Performance Lecture	3
AUTO 2805	Auto Engine Performance Lab	2
AUTO 2930	Leadership & Professional Development-Course 2	1

Diesel and Heavy-Dusty Mechanics Technology

Students may obtain an Associate of Applied Science in Diesel and Heavy-Duty Mechanics Technology or obtain certificates of proficiency in the following areas.

- Engine Performance
- Engines and Hydraulics
- Chassis and Electrical Systems
- Drivetrain and Climate Control

Course	Description	Credits
DMT 1000	Safety and Basics	1
DMT 1101	Diesel Engine Repair & Overhaul Lecture	2
DMT 1105	Diesel Engine Repair & Overhaul Lab	3
DMT 1301	Transmissions & Drivetrains Lecture	3
DMT 1305	Transmissions & Drivetrains Lab	3
DMT 1401	Steering & Suspension Lecture	2
DMT 1405	Steering & Suspension Lab	2
DMT 1501	Brakes Lecture	2
DMT 1505	Brakes Lab	2
DMT 1600	Electrical & Electronics I	5
DMT 1715	Applied Technical Math	3
DMT 1801	Computerized Engine Controls & Fuel Systems Lecture	2
DMT 1805	Computerized Engine Controls & Fuel Systems Lab	2
DMT 1930	Leadership & Professional Development-Course 1	1
DMT 2311	Hydraulics & Pneumatics Lecture	2
DMT 2315	Hydraulics & Pneumatics Lab	2
DMT 2601	Electrical & Electronics II Lecture	4
DMT 2605	Electrical & Electronics II Lab	2
DMT 2701	Heating & Air Conditioning Lecture	2
DMT 2705	Heating & Air Conditioning Lab	2
DMT 2801	Emissions Control Systems Lecture	2
DMT 2805	Emissions Control Systems Lab	2
DMT 2930	Leadership & Professional Development-Course 2	1

General Education

Computation	AT 1715 Applied Technical Math or MATH 1050 College Algebra	3-4
Composition	BUS 2200 Bus. Communication or ENGL 1010	3
Human Relations	GNST 1200 GE Foundations or BUS 1170 Human Relations in Org.	3

Appendix B: Transportation Technology Courses

AUTO 1000 Automotive Safety and Basics
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:1:1)
Description: This course provides proper knowledge of practices in safety to help establish working habits that would reflect industry standards and result in a safe working environment.

AUTO 1001 Automotive Technology I
Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (5:5:0)
Description: This course covers careers in the Automotive Industry, ASE Certification, tools, fuels and fuel systems, lubrication systems, engines, engine classification, displacement, cooling systems, belts, intake, and exhaust systems.

AUTO 1002 Automotive Technology II
Semester(s) Taught: Spring
Credits, Lecture hours, Lab hours: (5:5:0)
Description: This course covers the principles of suspension and steering, wheels and tires, electrical systems, starting systems, charging systems, lighting and wiring, and ignition systems.

AUTO 1039 Automotive Technology III
Semester(s) Taught: Fall, Spring,
Credits, Lecture hours, Lab hours: (2:0:4)
Description: This course helps students understand and use work orders, calculate labor amounts, parts, and flat rate charges. Students shall also gain experience doing a variety of automotive repairs. This course may be repeated for a maximum of six credits.

AUTO 1101 Automotive Engine Repair
Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course covers the construction and operational principles of basic gasoline engine systems and major overhaul of the complete automotive engine. Corequisites: AUTO 1105

AUTO 1105 Automotive Engine Repair Lab
Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (3:0:3)
Description: This course gives students the hands-on lab experience required for Auto 1101. It covers the construction and operational principles of basic gasoline engine systems and major overhaul of the complete automotive engine. Corequisites: AUTO 1101

AUTO 1201 Automotive Automatic Transmissions and Transaxles (formerly AUTO 1200)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course covers theory, operation, diagnosis, and overhaul procedures of automotive automatic transmissions and trans-axles, including planetary gearing, valve bodies, computerized transmission controls, and torque converter lock-up. Corequisite: This lecture AUTO 1201 must be taken concurrently with the lab AUTO 1205.

AUTO 1205 Automotive Automatic Transmissions and Transaxles Lab (formerly AUTO 1200)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:0:9)
Description: This course gives students the hands-on lab experience required for AUTO 1201. This course covers theory, operation, diagnosis, and overhaul procedures of automotive automatic transmissions and trans-axles, including planetary gearing, valve bodies, computerized transmission controls, and torque converter lock-up. Corequisite: This lab AUTO 1205 must be taken concurrently with the lecture AUTO 1201.

AUTO 1301 Automotive Manual Transmissions/Power Trains
Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course covers theory, operation, diagnosis, maintenance, and overhaul of the clutch, standard transmission, standard trans-axles, drive lines, differentials, front-wheel drive units, and four-wheel drive components. Corequisites: AUTO 1305

AUTO 1305 Automotive Manual Transmissions/Power Trains
Semester(s) Taught: Fall
Credits, Lecture hours, Lab hours: (3:0:9)
Description: This course gives students the hands-on lab experience required for Auto 1301. It covers theory, operation, diagnosis, maintenance, and overhaul of the clutch, standard transmission, standard trans-axles, drive lines, differentials, front wheel drive units, and four-wheel drive components. Corequisites: AUTO 1301

AUTO 1401 Automotive Suspension and Steering (formerly AUTO 1400)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course covers repair and adjustment suspension and steering systems. Students study steering gears, rack and pinion, conventional and McPherson struts, alignment angles, and alignment with a computerized four-wheel alignment fixture. Corequisite: This lecture AUTO 1401 must be taken concurrently with the lab AUTO 1405.

AUTO 1405 Automotive Suspension and Steering Lab (formerly AUTO 1400)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:0:9)
Description: This course gives students the hands-on lab experience for AUTO 1401. This course covers repair and adjustment suspension and steering systems. Students study steering gears, rack and pinion, conventional and McPherson struts, alignment angles, and alignment with a computerized four-wheel alignment fixture. Corequisite: This lab AUTO 1405 must be taken concurrently with the lecture AUTO 1401.

AUTO 1501 Automotive Brakes (formerly AUTO 1500)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course covers principles, repair, and adjustment of the automotive brake system and includes hydraulic theory, diagnosis, and service of brake systems. Students study drums, disks, power units, and Antilock Braking System (ABS) brakes. Corequisite: This lecture AUTO 1501 must be taken concurrently with the lab AUTO 1505.

AUTO 1505 Automotive Brakes Lab (formerly AUTO 1500)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:0:9)
Description: This course gives students the hands-on lab experience for AUTO 1501. This course covers principles, repair, and adjustment of the automotive brake system and includes hydraulic theory, diagnosis, and service of brake systems. Students study drums, disks, power units, and Antilock Braking System (ABS) brakes. Corequisite: The lab AUTO 1505 must be taken concurrently with the lecture AUTO 1501.

AUTO 1509 Hot Rod and Performance Vehicles
Semester(s) Taught: Fall, Spring
Credits, Lecture hours, Lab hours: (2:1:3)
Description: This course will teach students the theory and skills required to build and modify engines, drive-trains, suspensions, and vehicles for increased performance and personal taste. This course is repeatable for credit.

AUTO 1600 Automotive Electrical and Electronics I
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (5:5:3)
Description: This course covers the principles and laws that govern electrical circuits, including Ohm's and Kirchhoff's Laws. Student will also gain understanding of the use of meters, wiring diagrams, wiring repair, conductors, semiconductors, PN junctions, diodes, transistors, multiplexing, computers, and sensors.

AUTO 1715 Applied Technical Math
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course covers the principles of algebra and geometry as they apply to problem solving in the Business and Applied Technologies (BAT) division programs. It includes the quadratic equation, exponents and radicals, polynomials, constructions of geometric shapes, the circle concept, and applications of volume and shapes.

AUTO 1801 Automotive Fuel, Emissions, and Ignition Systems (formerly AUTO 1800)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: Students will understand the theory, operation, diagnosis, and repair of fuel, emission control systems, and ignition systems. Corequisite: The lecture AUTO 1801 must be taken concurrently with the lab AUTO 1805.

AUTO 1805 Automotive Fuel, Emissions, and Ignition Systems Lab (formerly AUTO 1800)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:6)
Description: This course gives students the hands-on lab experience required for Auto 1801. Students will understand the theory, operation, diagnosis, and repair of fuel, emission control systems, and ignition systems.
Corequisite: The lab AUTO 1805 must be taken concurrently with the lecture AUTO 1801.

AUTO 1930 Leadership & Professional Development - Course 1
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:1:0)
Description: This is the first course in a series of two courses which will help students gain and improve workplace and interpersonal skills. Professional stewardship, management, and leadership are the foundational topics. Students taking this course will also have the opportunity to participate in the SkillsUSA career and professional leadership organization.

AUTO 2601 Automotive Electrical and Electronics II (formerly AUTO 2600)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (4:4:0)
Description: This course covers the theory, operation, and diagnosis of automotive batteries, starting systems, charging systems, lighting systems, instrumentation, and automotive accessories.
Corequisite: The lecture AUTO 2601 must be taken concurrently with the lab AUTO 2605.

AUTO 2605 Automotive Electrical and Electronics II Lab (formerly AUTO 2600)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:4)
Description: This course gives students the hands-on lab experience required for AUTO 2601. It covers theory, operation, and diagnosis of automotive batteries, starting systems, charging systems, lighting systems, instrumentation, and automotive accessories. Corequisite: The lab AUTO 2605 must be taken concurrently with the lecture AUTO 2601.

AUTO 2701 Automotive Heating and Air Conditioning (formerly AUTO 2700)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:2:0)
Description: Students will cover the principles, operation, and servicing of automotive air conditioning and heating systems and their components. Corequisite: The lecture AUTO 2701 must be taken concurrently with the lab AUTO 2705.

AUTO 2705 Automotive Heating and Air Conditioning Lab (formerly AUTO 2700)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:5)
Description: This course gives students the hands-on lab experience required for AUTO 2701. Students will cover the principles, operation, and servicing of automotive air conditioning and heating systems and their components. Corequisite: The lab AUTO 2705 must be taken concurrently with the lecture AUTO 2701.

AUTO 2801 Automotive Engine Performance (formerly AUTO 2800)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: Students will cover diagnosis, adjustment, and repair of the systems which affects engine performance. Emphasis will be placed on computerized engine control systems of various makes. Use of diagnostic equipment is emphasized. Corequisite: The lecture AUTO 2801 must be taken concurrently with the lab AUTO 2805.

AUTO 2805 Automotive Engine Performance Lab (formerly AUTO 2800)
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:6)
Description: This course gives students the hands-on lab experience required for Auto 2801. Students will cover diagnosis, adjustment, and repair of the systems which affects engine performance. Emphasis will be placed on computerized engine control systems of various makes. Use of diagnostic equipment is emphasized. Corequisite: The lab AUTO 2805 must be taken concurrently with the lecture AUTO 2801.

AUTO 2930 Leadership & Professional Development - Course 2
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:1:0)
Description: This is the second course in a series of two courses which will help students gain and improve workplace and interpersonal skills. Professional stewardship, management, and leadership are the foundational topics. Students taking this course will also have the opportunity to participate in the SkillsUSA career and professional leadership organization.

AUTO 2990 Shop Practicum I
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1-6:0:2-12)
Description: This course provides supervised work experience at a sponsoring dealership or repair garage which applies directly to previous automotive courses. Proof of employment and approval by faculty supervisor is required.

AUTO 2991 Shop Practicum II
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1-6:0:2-12)
Description: This course provides supervised work experience at a sponsoring dealership or repair garage which applies directly to previous automotive courses. Proof of employment and approval by faculty supervisor is required.

DMT 1000 Diesel Safety and Basics
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:1:1)
Description: This course provides proper knowledge of practices in safety to help establish working habits that would reflect industry standards and result in a safe working environment.

DMT 1001 Intro to Diesel Technology I
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (5:4:2)
Description: This course covers careers in the Diesel and Transportation Industry, ASE Certification, fasteners, tools, preventative maintenance, lubrication systems, engines, and fuel systems.

DMT 1002 Intro to Diesel Technology II
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (5:4:2)
Description: This course covers electricity and electrical systems, batteries, starting systems, charging systems, steering and suspension systems, brakes, wheels, and tires.

DMT 1101 Diesel Engine Repair and Overhaul
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course will instruct heavy duty mechanics technology students on the basic operation, parts, and overhaul procedures of diesel engines. The course provides theory of four-stroke diesel engines, their design, structure, operation, maintenance, repair, and overhaul. Students will receive detailed instruction on engine lubrication, air, cooling, and exhaust systems. Corequisite: This lecture DMT 1101 must be taken concurrently with the lab DMT 1105.

DMT 1105 Diesel Engine Repair and Overhaul Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:0:9)
Description: This course gives students the hands-on lab experience for DMT 1101. This course will instruct heavy duty mechanics technology students on the basic operation, parts, and overhaul procedures of diesel engines. The course provides theory on four-stroke diesel engines, their design, structure, operation, maintenance, repair, and overhaul. Students will receive detailed instruction on engine lubrication, air, cooling, and exhaust systems. Corequisite: This lab DMT 1105 must be taken concurrently with the lecture DMT 1101.

DMT 1301 Transmissions and Drivetrains
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course provides instruction on theory and operation of torque converters, powershift, automatic transmissions, manual transmissions, double and triple countershaft transmissions, differentials, clutches, transfer cases, axles, drivetrain components, drivelines, and electronic control devices. This course emphasizes troubleshooting, repair procedures, use of service manuals, and schematic diagrams. Corequisite: This lecture DMT 1301 must be taken concurrently with the lab DMT 1305.

DMT 1305 Transmissions and Drivetrains Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:0:9)
Description: This course gives students the hands-on lab experience for DMT 1301. This course provides instruction on theory and operation of torque converters, powershift, automatic transmissions, manual transmissions, double and triple countershaft transmissions, differentials, clutches, transfer cases, axles, drivetrain components, drivelines, and electronic control devices. This course emphasizes troubleshooting, repair procedures, use of service manuals, and schematic diagrams. Corequisite: This lab DMT 1305 must be taken concurrently with the lecture DMT 1301.

DMT 1401 Diesel Suspension and Steering
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course covers repair and adjustment suspension and steering systems. Students study steering gears, rack and pinion, conventional and McPherson struts, alignment angles, and alignment with a computerized four-wheel alignment fixture. Corequisite: This lecture DMT 1401 must be taken concurrently with the lab DMT 1405.

DMT 1405 Diesel Suspension and Steering Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:6)
Description: This course gives students the hands-on lab experience for DMT 1401. This course covers repair and adjustment suspension and steering systems. Students study steering gears, rack and pinion, conventional and McPherson struts, alignment angles, and alignment with a computerized four-wheel alignment fixture. This lab DMT 1405 must be taken concurrently with the lecture DMT 1401.
Corequisites: DMT 1401

DMT 1501 Diesel Brakes
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course covers principles, repair, and adjustment of the diesel truck and trailer brake systems and includes hydraulic theory, air brake theory, diagnosis, and service of brake systems. Students study drums, disks, power units, and Antilock Braking System (ABS) brakes. Corequisite: This lecture DMT 1501 must be taken concurrently with the lab DMT 1505.

DMT 1505 Diesel Brakes Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:6)
Description: This course gives students the hands-on lab experience for DMT 1501. This course covers principles, repair, and adjustment of the diesel truck and trailer brake systems and includes hydraulic theory, air brake theory, diagnosis, and service of brake systems. Students study drums, disks, power units, and Antilock Braking System (ABS) brakes. The lab DMT 1505 must be taken concurrently with the lecture DMT 1501. Corequisites: DMT 1501

DMT 1600 Diesel Electrical and Electronics I
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (5:5:3)
Description: This course covers the principles and laws that govern electrical circuits, including Ohm's and Kirchhoff's Laws. Student will also gain understanding of the use of meters, wiring diagrams, wiring repair, conductors, semiconductors, PN junctions, diodes, transistors, multiplexing, computers, and sensors.

DMT 1715 Applied Technical Math
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (3:3:0)
Description: This course covers the principles of algebra and geometry as they apply to problem solving in the Business and Applied Technologies (BAT) division programs. It includes the quadratic equation, exponents and radicals, polynomials, constructions of geometric shapes, the circle concept, and applications of volume and shapes.

DMT 1801 Computerized Engine Controls and Fuel Systems
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course provides experience on computerized engine diagnostics. Time will be spent on engine performance factors, scan tools, input sensors, computer outputs, etc. It will also cover maintenance, tune up, diagnostic procedures, and repair on electronics, hydraulic electric unit injection (HUEI), Bosch in-line, common rail, and mechanical fuel systems. Corequisite: The lecture DMT 1801 must be taken concurrently with the lab DMT 1805.

DMT 1805 Computerized Engine Controls and Fuel Systems Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:6)
Description: This course gives students the hands-on lab experience for DMT 1801. This course provides experience on computerized engine diagnostics. Time will be spent on engine performance factors, scan tools, input sensors, computer outputs, etc. It will also cover maintenance, tune up, diagnostic procedures and repair on electronics, hydraulic electric unit injection (HUEI), Bosch in-line, common rail, and mechanical fuel systems. Corequisite: The lab DMT 1805 must be taken concurrently with the lecture DMT 1801.

DMT 1930 Leadership & Professional Development - Course 1
DMT 2930 Leadership & Professional Development - Course 2
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:1:0)
Description: This is the first course in a series of two courses which will help students gain and improve workplace and interpersonal skills. Professional stewardship, management, and leadership are the foundational topics. Students taking this course will also have the opportunity to participate in the SkillsUSA career and professional leadership organization.

DMT 1999 Cooperative Education Experience
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (1:0:2)
Description: This course provides an opportunity for students to apply knowledge and techniques learned in the classroom to actual job experience. Classroom instruction must precede the job experience or the student must be registered for courses at the same time the student is enrolled in the work experience.
Prerequisites: Instructor approval required.

DMT 2311 Hydraulics and Pneumatics
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course covers theory, formulas, design, maintenance, and repair of hydraulic and pneumatic operated systems, including rams, pistons, apply devices, motors, etc. Corequisites: DMT 2315

DMT 2315 Hydraulics and Pneumatics Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:6)
Description: This course covers theory, formulas, design, maintenance, and repair of hydraulic and pneumatic operated systems, including rams, pistons, apply devices, motors, etc. Co-requisite: The lab DMT 2315 must be taken concurrently with the lecture DMT 2311. Corequisites: DMT 2311

DMT 2601 Diesel Electrical and Electronics II
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (4:4:0)
Description: This course covers the theory, operation, and diagnosis of diesel batteries, starting systems, charging systems, lighting systems, instrumentation, and diesel accessories. Corequisite: The lecture DMT 2601 must be taken concurrently with the lab DMT 2605.

DMT 2605 Diesel Electrical and Electronics II Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:4)
Description: This course gives students the hands-on lab experience required for DMT 2601. It covers theory, operation, and diagnosis of diesel batteries, starting systems, charging systems, lighting systems, instrumentation, and diesel accessories. Corequisite: The lab DMT 2605 must be taken concurrently with the lecture DMT 2601.

DMT 2701 Diesel Heating and Air Conditioning
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:2:0)
Description: Students will cover the principles, operation, and servicing of automotive, diesel, and transportation; air conditioning and heating systems and their components. Corequisite: The lecture DMT 2701 must be taken concurrently with the lab DMT 2705.

DMT 2705 Diesel Heating and Air Conditioning Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:5)
Description: This course gives students the hands-on lab experience required for DMT 2701. Students will cover the principles, operation, and servicing of automotive air conditioning and heating systems and their components. Corequisite: The lab DMT 2705 must be taken concurrently with the lecture DMT 2701.

DMT 2801 Emissions and Emissions Control Devices
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:2:0)
Description: This course teaches diesel systems that control/regulate the engine's output emissions, emission controls, maintenance procedures, repair, diagnosis, and safety. Students will be taught the emission standards and regulations of the federal government and administered by organizations such as the Environmental Protection Agency (EPA) and Mine Safety and Health Administration (MSHA). Co-requisite: The lecture DMT 2801 must be taken concurrently with the lab DMT 2805. Corequisites: DMT 2805

DMT 2805 Emissions and Emissions Control Devices Lab
Semester(s) Taught: TBA
Credits, Lecture hours, Lab hours: (2:0:6)
Description: This course gives students the hands-on lab experience for DMT 2801. This course teaches diesel systems that control/regulate the engine's output emissions, emission controls, maintenance procedures, repair, diagnosis, and safety. Students will be taught the emission standards and regulations of the federal government and administered by organizations such as the Environmental Protection Agency (EPA) and Mine Safety and Health Administration (MSHA). Co-requisite: The lab DMT 2805 must be taken concurrently with the lecture DMT 2801. Corequisites: DMT 2801

Appendix C: Curriculum Map and Assessment Plan

Snow College Automotive Technology Curriculum Map

Summary:

Snow College Transportation Technology department offers an Automotive Technology program that follows the eight (8) Automotive Service Excellence (ASE) areas. Students are encouraged to take the ASE certification tests when they complete an area and the associated course numbers.

Students have three options. (1) They may complete any singular course for a school certificate. (2) Obtain any one or combination of State Certificates of Proficiency in Engine Performance, Engines and Drivetrains, Chassis and Climate Control, or Electrical Systems and Automatic Transmissions. (3) Obtain an Associate of Applied Science degree in Automotive Technology.

Outcomes:

Students who complete an AAS degree or specific courses in any or all the eight ASE areas in Automotive Technology at Snow College will be expected to demonstrate that they:

1. Have completed lab tasks outlined by the National Automotive Technicians Education Foundation and Automotive Service Excellence (NATEF/ASE), and have completed 100% of priority one, 80% of priority two, and 60% of priority three tasks.
2. Have basic knowledge of the operation, function, diagnosis, and repair of internal combustion engines and their related fuel, ignition, and emissions systems.
3. Have basic knowledge of electrical theory including, the operation and function of electrical circuits, electrical components, and the diagnosis and repair of these circuits.
4. Have basic knowledge of the operation, function, diagnosis, and repair of components used in the drivetrain of automobiles, i.e.: transmissions, transaxles, transfer cases, differentials, etc.
5. Have basic knowledge of the operation, function, diagnosis, and repair of components used in the suspension and braking systems of automobiles.
6. Have basic knowledge of the operation, function, diagnosis, and repair of components used in the heating and air conditioning systems found in automobiles.
7. Upon graduation students will be prepared to take ASE certification tests to assist them in gaining quality employment in their desired field.

PROGRAM COURSEWORK AND ASSESSMENT	Knowledge Area: Automotive Technology							
	Completed lab tasks outlined by the (NATEF/ASE), and complete 100% of priority one, 80% of priority two, and 60% of priority three tasks	Have basic knowledge of the operation, function, diagnosis, and repair of internal combustion engines and their related fuel, ignition, and emissions systems	Have basic knowledge of electrical theory including, the operation and function of electrical circuits, electrical components, and the diagnosis and repair of these circuits	Have basic knowledge of the operation, function, diagnosis, and repair of components used in the drivetrain of automobiles, i.e.: transmissions, transaxles, transfer cases, differentials, etc.	Have basic knowledge of the operation, function, diagnosis, and repair of components used in the suspension and braking systems of automobiles	Have basic knowledge of the operation, function, diagnosis, and repair of components used in the heating and air conditioning systems found in automobiles	Be prepared to take ASE certification tests to assist them in gaining quality employment in their desired field	Meets another program level outcome
Course/Program Outcome	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**DIESEL & AUTO**
AUTO 1000: Automotive Safety & Basics	X						X	
AUTO 1101: Auto Engine Repair Lecture	X	X					X	
AUTO 1105: Auto Engine Repair Lab	X	X					X	
AUTO 1201: Auto Automatic Trans. & Transaxles Lecture	X			X			X	
AUTO 1205: Auto Automatic Trans. & Transaxles Lab	X			X			X	
AUTO 1301: Auto Manual Trans. & Transaxles Lecture	X			X			X	
AUTO 1305: Auto Manual Trans. & Transaxles Lab	X			X			X	
AUTO 1401: Auto Suspension & Steering Lecture	X				X		X	

AUTO 1405: Auto Suspension & Steering Lab	X				X		X	
AUTO 1501: Auto Brakes Lecture	X				X		X	
AUTO 1505: Auto Brakes Lab	X				X		X	
AUTO 1600: Auto Electrical & Electronics I	X		X				X	
AUTO 1801: Auto Fuel, Emissions, & Ignition Systems Lecture	X	X					X	
AUTO 1805: Auto Fuel, Emissions, & Ignition Systems Lab	X	X					X	
AUTO 2601: Auto Electrical & Electronics II Lecture	X		X				X	X
AUTO 2605: Auto Electrical & Electronics II Lab	X		X				X	X
DMT 2701: Auto Heating and Air Conditioning Lecture	X					X	X	X
DMT2705: Auto Heating and Air Conditioning Lab	X					X	X	X
AUTO 2801: Auto Engine Performance Lecture	X	X					X	
AUTO 2805: Auto Engine Performance Lab	X	X					X	

- Blue boxes represent assessment for more than one program.
- Orange boxes represent assessment for this program

Snow College Diesel Mechanics Technology Curriculum Map

Summary:

Snow College offers a Diesel and Heavy-Duty Mechanics Technology program, which prepares the student to meet job entry requirements. This program covers the servicing and repairing of diesel and heavy-duty equipment and machines in preparation for becoming a successful Heavy-Duty Mechanic.

Students have three options. (1) They may complete any singular course for a school certificate. (2) Obtain any one or combination of State Certificates of Proficiency in Engine Performance, Engines and Hydraulics, Chassis and Electrical Systems, or Drivetrains and Climate Control. (3) Obtain an Associate of Applied Science degree in Diesel Technology.

Outcomes

Students who complete an AAS in Diesel and Heavy-Duty Mechanics Technology will be expected to demonstrate that they:

1. Have completed lab tasks outlined by the National Automotive Technicians Education Foundation and Automotive Service Excellence (NATEF/ASE), and have completed 100% of priority one, 80% of priority two, and 60% of priority three tasks.
2. Have basic knowledge of the operation, function, diagnosis, and repair of internal combustion engines and their related fuel, ignition, and emissions systems.
3. Have basic knowledge of electrical theory including, the operation and function of electrical circuits, electrical components, and the diagnosis and repair of these circuits.
4. Have basic knowledge of the operation, function, diagnosis, and repair of components used in the drivetrain of trucks and heavy-duty equipment, i.e.: transmissions, transaxles, transfer cases, differentials, etc.
5. Have basic knowledge of the operation, function, diagnosis, and repair of components used in the suspension and braking systems of trucks and heavy-duty equipment.
6. Have basic knowledge of the operation, function, diagnosis, and repair of components used in the heating and air conditioning systems found in trucks and heavy-duty equipment.
7. Upon graduation students will be prepared to take ASE certification tests to assist them in gaining quality employment in their desired field.

PROGRAM COURSEWORK AND ASSESSMENT	Knowledge Area: Diesel Mechanics Technology							
	Completed lab tasks outlined by the (NATEF/ASE), and complete 100% of priority one, 80% of priority two, and 60% of priority three tasks	Have basic knowledge of the operation, function, diagnosis, and repair of internal combustion engines and their related fuel, ignition, and emissions systems	Have basic knowledge of electrical theory including, the operation and function of electrical circuits, electrical components, and the diagnosis and repair of these circuits	Have basic knowledge of the operation, function, diagnosis, and repair of components used in the drivetrain of trucks and heavy-duty equipment i.e.: transmissions, transaxles, transfer cases, differentials, etc.	Have basic knowledge of the operation, function, diagnosis, and repair of components used in the suspension and braking systems of trucks and heavy-duty equipment	Have basic knowledge of the operation, function, diagnosis, and repair of components used in the heating and air conditioning systems found in trucks and heavy-duty equipment	Be prepared to take ASE certification tests to assist them in gaining quality employment in their desired field	Meets another program level outcome
Course/Program Outcome	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**DIESEL & AUTO**
AUTO 1000: Safety and Basics	X						X	
DMT 1101: Diesel Engine Repair & Overhaul Lecture	X	X					X	
DMT 1105: Diesel Engine Repair & Overhaul Lab	X	X					X	
DMT 1301: Transmissions & Drivetrains Lecture	X			X				
DMT 1305: Transmissions & Drivetrains Lab	X			X				
DMT 1401: Steering & Suspension Lecture	X				X		X	
DMT 1405: Steering & Suspension Lab	X				X		X	
DMT 1501: Brakes Lecture	X				X		X	
DMT 1505: Brakes Lab	X				X		X	

AUTO 1600: Electrical & Electronics I	X		X				X	X
DMT 1801: Computerized Engine Controls & Fuel Systems Lecture	X	X					X	
DMT 1805: Computerized Engine Controls & Fuel Systems Lab	X	X					X	
DMT 2311: Hydraulics & Pneumatics Lecture	X							
DMT 2315: Hydraulics & Pneumatics Lab	X							
AUTO 2601: Electrical & Electronics II Lecture	X		X				X	X
AUTO 2605: Electrical & Electronics II Lab	X		X				X	X
DMT 2701: Heating & Air Conditioning Lecture	X					X	X	X
DMT 2705: Heating & Air Conditioning Lab	X					X	X	X
DMT 2801: Emissions Control Systems Lecture	X	X					X	
DMT 2805: Emissions Control Systems Lecture	X	X					X	

- Blue boxes represent assessment for more than one program.
- Orange boxes represent assessment for this program