

YEAR ONE AD HOC

SELF-EVALUATION REPORT ON RECOMMENDATION #4

Helena College University of Montana

Helena, Montana www.helenacollege.edu

Report Prepared for the Northwest Commission on Colleges and Universities

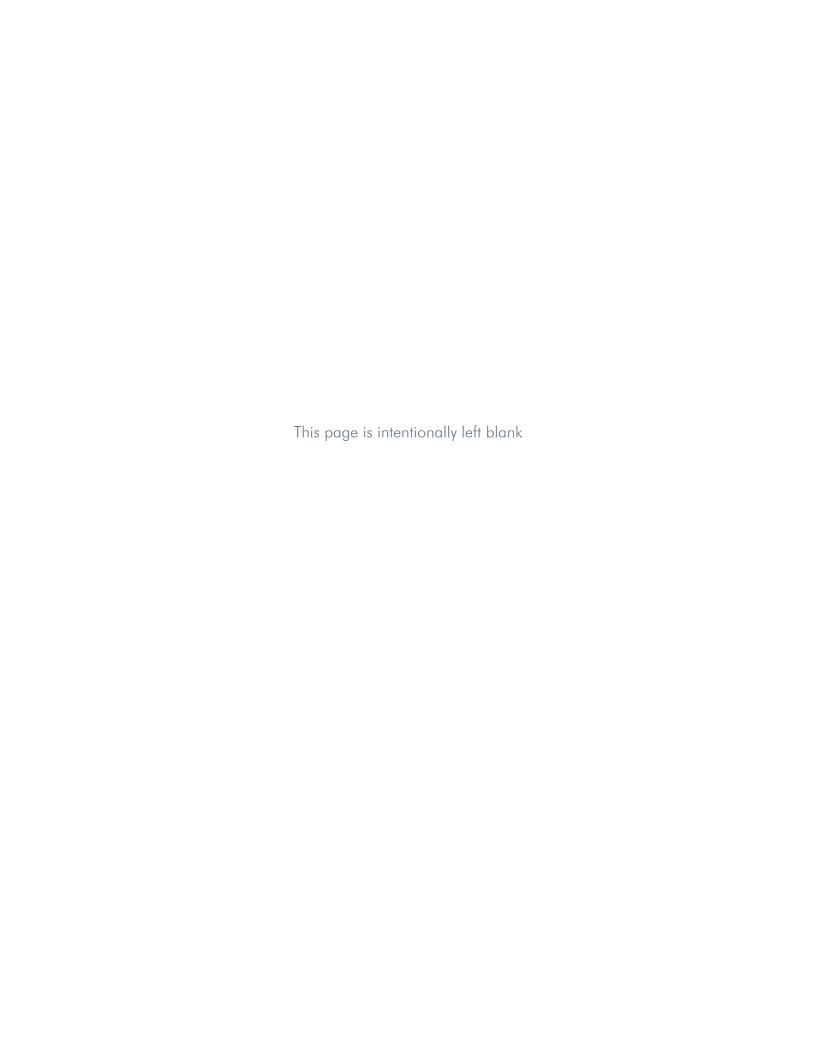
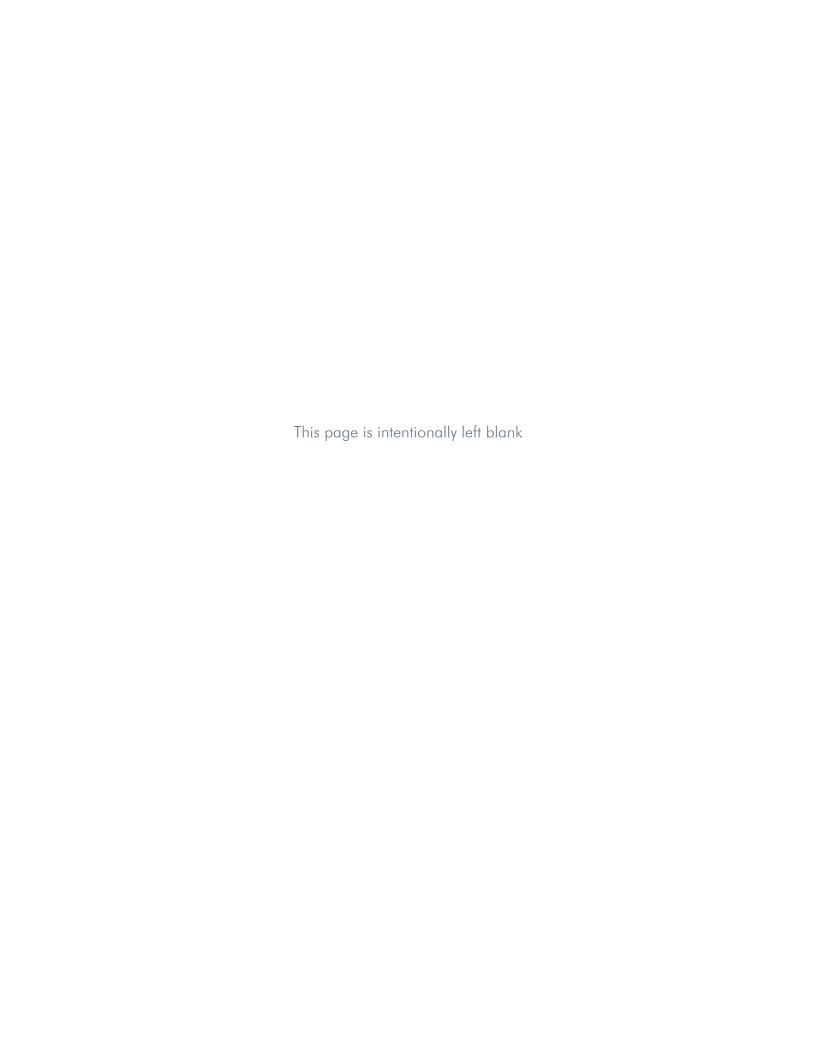


Table of Contents	
Table of Contents Introduction	1
Recommendation #4	
Campus Report	3
Conclusion	5
Appendix 1 – Program Outcomes Inventory	7
Appendix 2 – Course outcomes (Representative sample)	35
Appendix 3 – Core themes	51
Appendix 4 – Redesign project work plan	57



INTRODUCTION

In a letter dated July 12, 2017, the Northwest Commission on Colleges and Universities (NWCCU) informed Helena College that an Ad Hoc report was to be prepared by the College with regard to Recommendation 4 from the April 2017 Year Seven evaluation report. The April 2017 evaluation team applauded the progress made by the College towards a comprehensive and systematic practice of assessment; however, an update was requested describing additional progress in the intervening period. The current document provides a narrative overview, documentary evidence of the College's on-going response to Recommendation 4, as well as a description of the infrastructure that has been built to support the burgeoning culture of assessment at Helena College.

RECOMMENDATION #4

- 4. The Evaluation Committee recognizes the concerted effort that Helena College has put toward addressing Recommendation 4 from the 2014 Year Three evaluation. To continue with that effort, the committee recommends that the college continue to:
 - a) systematically develop student learning outcomes and assessments for each program of the college, including general education,
 - b) ensure that the learning outcomes and assessments align with the mission and core themes of the college,
 - c) use the program assessment data to improve teaching and learning as well as to inform decision making at all college levels.
 - (2.C.2, 2.C.5,2.C.9, 2.C.10, Core Themes: 4.A.1, 4.A.2, 4.A.3).

Campus Report

The College has taken the following actions to respond to the concerns raised in Recommendation 4, subsections a, b, and c:

<u>Recommendation 4.a</u>: Work was begun prior to the April 2017 NWCCU evaluation visit, and continued subsequently until completion, to update and complete program-level outcomes for programs including Professional Certificates (abbreviated "PC" in *Appendix 1*); Certificates of Applied Science ("CAS"); Associate of Applied Science ("AAS"); Associate of Arts ("AA"); and, Associate of Science ("AS") degrees.

Appendix 1 is a comprehensive accounting of each of those program-level student learning outcomes. All outcomes are reviewed and approved by Helena College's Academic Standards and Curriculum Review Committee (ASCRC), which is faculty-led, and whose voting members are almost exclusively faculty, with the exception of the Director of the Library, who also serves as a member of the Executive Committee of the Faculty Senate. Academic administrators who attend ASCRC meetings in an *ex officio* (non-voting) capacity include the Associate Dean of Academic and Student Affairs, the Division Chairs of General Education and Trades, as well as the Director of Nursing. Additionally, the Director of the Student Support Center, the eLearning Director, and the Director of Admissions and Records attend meetings to ensure proper vetting of all curricular, and related, proposals.

Assessment of outcomes is the responsibility of each department and faculty member, and is being assisted by a newly-developed assessment database, described below. Helena College faculty members work collaboratively to ensure that all courses and programs focus on student achievement of identified learning outcomes. Through the divisional structure, the committees of Faculty Senate (particularly the ASCRC), and the institutional Strategic Planning, Assessment & Accreditation (SPAA) committee, the faculty is actively engaged in all levels of design, assessment, review and revision of SLOs at the course, program, and institutional levels.

Appendix 2 contains a sample of course-level outcomes, which also are reviewed and approved by the ASCRC in a regular, systematic fashion. On-going review and updating of course-level outcomes is routine, and is conducted by faculty in accordance with ASCRC rules and procedures. Appropriate Directors/Division Chairs review and approve any changes, as does the Associate Dean of Academic and Student Affairs.

The entire file runs to nearly 900 pages, so it is not included as an appendix. Similarly, the assessment database that is under construction does not readily lend itself to being attached as an appendix, so only a small, representative sample is provided in this document. The entire document might be shared upon request.

<u>Recommendation 4.b</u>: The College, through the work of the Instructional Council (IC) and the SPAA, spent the summer and fall semester of 2017 evaluating and reforming the College's current assessment framework in coordination with updates to the strategic plan, mission statement, and core themes. As a result of these collaborative efforts, in January 2018 a

revised mission statement was approved by the Montana University System's Board of Regents. That updated mission statement is as follows: "Helena College University of Montana, a comprehensive two-year college, provides access to and support of high quality lifelong educational opportunities for our diverse community." This updated mission statement now emphasizes the importance of providing a "high quality" education to students, making explicit what was formerly implicit. This refinement enabled a key change to the Core Theme indicators, such that institutional competencies and program learning outcomes are now included as indicators in Core Theme 2 (see *Appendix 3*). The primacy of student learning for mission fulfillment is thus fully realized and acknowledged.

Recommendation 4.c: Current activities and initiatives related to an institutional redesign based on the Guided Pathways model of educational delivery for two-year colleges have also highlighted the importance of effective assessment of student learning outcomes. Participation in that effort represents a wide cross-section of the campus community including faculty, staff, and administrators. A broadly representative steering committee, led by the Associate Dean of Academic and Student Affairs, has met continuously since September 2017, and continues to work to institutionalize design principles devoted to ensuring student learning, including creating infrastructure to support the culture of assessment. The work of this redesign project steering committee (and of the SPAA) will be informed by the assessment information gleaned from the database described, below.

A faculty member from the Computer Technology program, in collaboration with the Director of Institutional Research and the Associate Dean of Academic and Student Affairs, has designed and begun construction of a database to track assessment of student learning outcomes at the course, program, and institutional levels. Pilot projects are under way using the database, and it is anticipated that the database will allow robust outcomes mapping across all levels of assessment, as well as generating reports to compare outcomes across sections of the same course, to identify potential gaps in program outcomes, and to allow comparisons between and among programs.

Implementation of the database will provide better documentation of student learning outcomes, including their assessment at the course, program and institutional levels. Furthermore, the database will allow connections to be made to other guiding documents, including the Core Themes report, which includes an indicator that can best be measured using reports made possible by the database. This will allow the College to demonstrate the alignment of learning outcomes to the College's mission and core themes, and will allow for better use of assessment data to improve teaching and learning, and inform decision-making at all levels of the institution, including financial resource allocation.

A residual by-product of this database is expected to be the conversion of the ASCRC curriculum review and approval processes to an entirely digital process. Piloting of this database is under way in Spring 2018, with anticipated rollout more broadly across the College during the 2018-2019 academic year.

Conclusion

Helena College has a deep culture of assessment, and has taken great strides in the nine months since the April 2017 Year Seven evaluation visit towards documenting that assessment activity. The inclusion of student learning outcomes measures in the Core Themes document will provide greater impetus to document student learning, as well as raising the profile of assessment at an institutional level. Moreover, the advent of a technological tool to prompt, facilitate, track, and analyze student learning outcomes is welcomed by faculty, and more broadly by college employees from all organizational units—instructional and non-instructional, alike.

Helena College University of Montana	Ad Hoc Self-Evaluation Report on Recommendation #4
	This page is intentionally left blank

APPENDIX 1 – PROGRAM OUTCOMES INVENTORY

A.A. General Studies

A. Natural Science & Mathematics

Math and Natural Science Outcomes

- Understand and demonstrate methods used to gather, test, and interpret scientific data.
- Understand basic principles that explain the natural world.
- Solve quantitative problems and interpret solutions.
- Use inductive and deductive scientific reasoning to solve novel problems.

B. Written & Oral Communication

Written/Oral Communications Outcomes

- Demonstrate mastery of engaging, clear, and coherent structures for presenting ideas in a variety of expository and argumentative models.
- Develop ideas logically, clearly, convincingly, and ethically.
- Control the effect of voice in achieving specific communication purposes with specific audiences.
- Control the conventions of language.
- Understand and apply research skills necessary for academic study.
- Employ analysis, synthesis, and evaluation in both writing and reading.
- Exercise proficiency, confidence, and self-reliance in the application of academic activities.

C. Social & Psychological Sciences, History

Social and Psychological Science Outcomes

- Have an awareness of major perspectives in social and individual behavior.
- Be able to apply social science theories to multicultural perspectives.
- Understand how historical experiences influence current theories.
- Be able to apply critical thinking skills.
- Be able to recognize and practice ethical research techniques.

D. Humanities & Fine Arts

Humanities and Fine Arts Outcomes

- Identify a variety of artistic styles, movements, schools of thought/expression, and cultures.
- Analyze, interpret, and evaluate a range of human expressions and values using critical strategies.
- Engage in imaginative expression.
- Appreciate a diversity of world-views or perspectives.

E. Diversity

Diversity Component Outcomes

- Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems.
- Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures.
- Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture.

A.A. Accounting Technology

A. Natural Science & Mathematics

Math and Natural Science Outcomes

- Understand and demonstrate methods used to gather, test, and interpret scientific data.
- Understand basic principles that explain the natural world.
- Solve quantitative problems and interpret solutions.
- Use inductive and deductive scientific reasoning to solve novel problems.

B. Written & Oral Communication

Written/Oral Communications Outcomes

- Demonstrate mastery of engaging, clear, and coherent structures for presenting ideas in a variety of expository and argumentative models.
- Develop ideas logically, clearly, convincingly, and ethically.
- Control the effect of voice in achieving specific communication purposes with specific audiences.
- Control the conventions of language.

- Understand and apply research skills necessary for academic study.
- Employ analysis, synthesis, and evaluation in both writing and reading.
- Exercise proficiency, confidence, and self-reliance in the application of academic activities.

C. Social & Psychological Sciences, History

Social and Psychological Science Outcomes

- Have an awareness of major perspectives in social and individual behavior.
- Be able to apply social science theories to multicultural perspectives.
- Understand how historical experiences influence current theories.
- Be able to apply critical thinking skills.
- Be able to recognize and practice ethical research techniques.

D. Humanities & Fine Arts

Humanities and Fine Arts Outcomes

- Identify a variety of artistic styles, movements, schools of thought/expression, and cultures.
- Analyze, interpret, and evaluate a range of human expressions and values using critical strategies.
- Engage in imaginative expression.
- Appreciate a diversity of world-views or perspectives.

E. Diversity

Diversity Component Outcomes

- Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems.
- Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures.
- Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture.

A.A. Business Technology

A. Natural Science & Mathematics

Math and Natural Science Outcomes

- Understand and demonstrate methods used to gather, test, and interpret scientific data.
- Understand basic principles that explain the natural world.
- Solve quantitative problems and interpret solutions.
- Use inductive and deductive scientific reasoning to solve novel problems.

B. Written & Oral Communication

Written/Oral Communications Outcomes

- Demonstrate mastery of engaging, clear, and coherent structures for presenting ideas in a variety of expository and argumentative models.
- Develop ideas logically, clearly, convincingly, and ethically.
- Control the effect of voice in achieving specific communication purposes with specific audiences.
- Control the conventions of language.
- Understand and apply research skills necessary for academic study.
- Employ analysis, synthesis, and evaluation in both writing and reading.
- Exercise proficiency, confidence, and self-reliance in the application of academic activities.

C. Social & Psychological Sciences, History

Social and Psychological Science Outcomes

- Have an awareness of major perspectives in social and individual behavior.
- Be able to apply social science theories to multicultural perspectives.
- Understand how historical experiences influence current theories.
- Be able to apply critical thinking skills.
- Be able to recognize and practice ethical research techniques.

D. Humanities & Fine Arts

Humanities and Fine Arts Outcomes

- Identify a variety of artistic styles, movements, schools of thought/expression, and cultures.
- Analyze, interpret, and evaluate a range of human expressions and values using critical strategies.
- Engage in imaginative expression.
- Appreciate a diversity of world-views or perspectives.

E. Diversity

Diversity Component Outcomes

- Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems.
- Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures.
- Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture.

A.A. Interior Space Planning and Design

- Demonstrate an understanding of design fundamentals and their application to the practice of interior design by successfully completing exams and projects.
- Demonstrate an understanding of the concept and theory of design by successfully completing projects.
- Demonstrate the ability to apply the design process to interior design problems utilizing programming, conceptual schematics, and design development skills by successfully completing assignments and projects.
- Demonstrate knowledge of interior materials, specifications, and maintenance by successfully completing exams and projects.
- Demonstrate knowledge of "green" materials and specifications through successfully completing research projects and various studio projects.
- Demonstrate knowledge of history in interiors and furnishings by successfully completing assignments and exams.
- Demonstrate an ability to communicate information through competent skills in hand drawings and CAD drawings.

Demonstrate presentation skills, including lettering, drawing, perspective, and preparation of design boards and models.

- Demonstrate an understanding of professional practice and project management skills by successfully completing assignments and projects.
- Demonstrate an understanding of the codes, regulations, and standards that protect the health, safety and welfare of the public by successfully completing assignments and projects.

A.A. Social Work

A. Natural Science & Mathematics

Math and Natural Science Outcomes

- Understand and demonstrate methods used to gather, test, and interpret scientific data.
- Understand basic principles that explain the natural world.
- Solve quantitative problems and interpret solutions.
- Use inductive and deductive scientific reasoning to solve novel problems.

B. Written & Oral Communication

Written/Oral Communications Outcomes

- Demonstrate mastery of engaging, clear, and coherent structures for presenting ideas in a variety of expository and argumentative models.
- Develop ideas logically, clearly, convincingly, and ethically.
- Control the effect of voice in achieving specific communication purposes with specific audiences.
- Control the conventions of language.
- Understand and apply research skills necessary for academic study.
- Employ analysis, synthesis, and evaluation in both writing and reading.
- Exercise proficiency, confidence, and self-reliance in the application of academic activities.

C. Social & Psychological Sciences, History

Social and Psychological Science Outcomes

- Have an awareness of major perspectives in social and individual behavior.
- Be able to apply social science theories to multicultural perspectives.

- Understand how historical experiences influence current theories.
- Be able to apply critical thinking skills.
- Be able to recognize and practice ethical research techniques.

D. Humanities & Fine Arts

Humanities and Fine Arts Outcomes

- Identify a variety of artistic styles, movements, schools of thought/expression, and cultures.
- Analyze, interpret, and evaluate a range of human expressions and values using critical strategies.
- Engage in imaginative expression.
- Appreciate a diversity of world-views or perspectives.

E. Diversity

Diversity Component Outcomes

- Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems.
- Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures.
- Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture.

A.S. General Studies

A. Natural Science & Mathematics

Math and Natural Science Outcomes

- Understand and demonstrate methods used to gather, test, and interpret scientific data.
- Understand basic principles that explain the natural world.
- Solve quantitative problems and interpret solutions.
- Use inductive and deductive scientific reasoning to solve novel problems.

B. Written & Oral Communication

Written/Oral Communications Outcomes

- Demonstrate mastery of engaging, clear, and coherent structures for presenting ideas in a variety of expository and argumentative models.
- Develop ideas logically, clearly, convincingly, and ethically.
- Control the effect of voice in achieving specific communication purposes with specific audiences.
- Control the conventions of language.
- Understand and apply research skills necessary for academic study.
- Employ analysis, synthesis, and evaluation in both writing and reading.
- Exercise proficiency, confidence, and self-reliance in the application of academic activities.

C. Social & Psychological Sciences, History

Social and Psychological Science Outcomes

- Have an awareness of major perspectives in social and individual behavior.
- Be able to apply social science theories to multicultural perspectives.
- Understand how historical experiences influence current theories.
- Be able to apply critical thinking skills.
- Be able to recognize and practice ethical research techniques.

D. Humanities & Fine Arts

Humanities and Fine Arts Outcomes

- Identify a variety of artistic styles, movements, schools of thought/expression, and cultures.
- Analyze, interpret, and evaluate a range of human expressions and values using critical strategies.
- Engage in imaginative expression.
- Appreciate a diversity of world-views or perspectives.

E. Diversity

Diversity Component Outcomes

- Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems.
- Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures.
- Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture.

A.S. Accounting Technology

A. Natural Science & Mathematics

Math and Natural Science Outcomes

- Understand and demonstrate methods used to gather, test, and interpret scientific data.
- Understand basic principles that explain the natural world.
- Solve quantitative problems and interpret solutions.
- Use inductive and deductive scientific reasoning to solve novel problems.

B. Written & Oral Communication

Written/Oral Communications Outcomes

- Demonstrate mastery of engaging, clear, and coherent structures for presenting ideas in a variety of expository and argumentative models.
- Develop ideas logically, clearly, convincingly, and ethically.
- Control the effect of voice in achieving specific communication purposes with specific audiences.
- Control the conventions of language.
- Understand and apply research skills necessary for academic study.
- Employ analysis, synthesis, and evaluation in both writing and reading.
- Exercise proficiency, confidence, and self-reliance in the application of academic activities.

C. Social & Psychological Sciences, History Social and Psychological Science Outcomes Have an awareness of major perspectives in social and individual behavior. Be able to apply social science theories to multicultural perspectives. Understand how historical experiences influence current theories. • Be able to apply critical thinking skills. Be able to recognize and practice ethical research techniques. D. Humanities & Fine Arts Humanities and Fine Arts Outcomes Identify a variety of artistic styles, movements, schools of thought/expression, and cultures. Analyze, interpret, and evaluate a range of human expressions and values using critical strategies. Engage in imaginative expression. Appreciate a diversity of world-views or perspectives. E. Diversity **Diversity Component Outcomes** Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems. Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures. Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture. A.S. Business A. Natural Science & Mathematics Administration Math and Natural Science Outcomes • Understand and demonstrate methods used to gather, test, and interpret scientific data. Understand basic principles that explain the natural world.

Solve quantitative problems and interpret solutions.

 Use inductive and deductive scientific reasoning to solve novel problems.

B. Written & Oral Communication

Written/Oral Communications Outcomes

- Demonstrate mastery of engaging, clear, and coherent structures for presenting ideas in a variety of expository and argumentative models.
- Develop ideas logically, clearly, convincingly, and ethically.
- Control the effect of voice in achieving specific communication purposes with specific audiences.
- Control the conventions of language.
- Understand and apply research skills necessary for academic study.
- Employ analysis, synthesis, and evaluation in both writing and reading.
- Exercise proficiency, confidence, and self-reliance in the application of academic activities.

C. Social & Psychological Sciences, History

Social and Psychological Science Outcomes

- Have an awareness of major perspectives in social and individual behavior.
- Be able to apply social science theories to multicultural perspectives.
- Understand how historical experiences influence current theories.
- Be able to apply critical thinking skills.
- Be able to recognize and practice ethical research techniques.

D. Humanities & Fine Arts

Humanities and Fine Arts Outcomes

- Identify a variety of artistic styles, movements, schools of thought/expression, and cultures.
- Analyze, interpret, and evaluate a range of human expressions and values using critical strategies.
- Engage in imaginative expression.

• Appreciate a diversity of world-views or perspectives.

E. Diversity

Diversity Component Outcomes

- Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems.
- Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures.
- Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture.

A.S. Business Technology

A. Natural Science & Mathematics

Math and Natural Science Outcomes

- Understand and demonstrate methods used to gather, test, and interpret scientific data.
- Understand basic principles that explain the natural world.
- Solve quantitative problems and interpret solutions.
- Use inductive and deductive scientific reasoning to solve novel problems.

B. Written & Oral Communication

Written/Oral Communications Outcomes

- Demonstrate mastery of engaging, clear, and coherent structures for presenting ideas in a variety of expository and argumentative models.
- Develop ideas logically, clearly, convincingly, and ethically.
- Control the effect of voice in achieving specific communication purposes with specific audiences.
- Control the conventions of language.
- Understand and apply research skills necessary for academic study.
- Employ analysis, synthesis, and evaluation in both writing and reading.
- Exercise proficiency, confidence, and self-reliance in the application of academic activities.

C. Social & Psychological Sciences, History

Social and Psychological Science Outcomes

- Have an awareness of major perspectives in social and individual behavior.
- Be able to apply social science theories to multicultural perspectives.
- Understand how historical experiences influence current theories.
- Be able to apply critical thinking skills.
- Be able to recognize and practice ethical research techniques.

D. Humanities & Fine Arts

Humanities and Fine Arts Outcomes

- Identify a variety of artistic styles, movements, schools of thought/expression, and cultures.
- Analyze, interpret, and evaluate a range of human expressions and values using critical strategies.
- Engage in imaginative expression.
- Appreciate a diversity of world-views or perspectives.

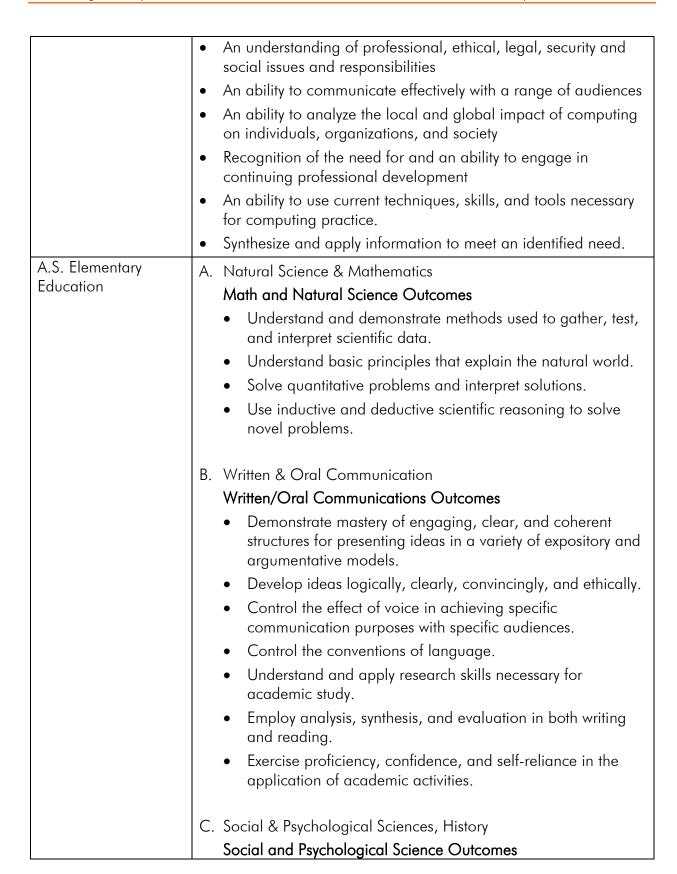
E. Diversity

Diversity Component Outcomes

- Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems.
- Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures.
- Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture.

A.S. Computer Technology

- An ability to apply knowledge of computing and mathematics appropriate to the discipline
- An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- An ability to design, implement, and evaluate a computerbased system, process, component, or program to meet desired needs
- An ability to function effectively on teams to accomplish a common goal



- Have an awareness of major perspectives in social and individual behavior.
 Be able to apply social science theories to multicultural perspectives.
- Understand how historical experiences influence current theories.
- Be able to apply critical thinking skills.
- Be able to recognize and practice ethical research techniques.

D. Humanities & Fine Arts

Humanities and Fine Arts Outcomes

- Identify a variety of artistic styles, movements, schools of thought/expression, and cultures.
- Analyze, interpret, and evaluate a range of human expressions and values using critical strategies.
- Engage in imaginative expression.
- Appreciate a diversity of world-views or perspectives.

E. Diversity

Diversity Component Outcomes

- Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems.
- Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures.
- Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture.

A.S. Pre-Pharmacy

A. Natural Science & Mathematics

Math and Natural Science Outcomes

- Understand and demonstrate methods used to gather, test, and interpret scientific data.
- Understand basic principles that explain the natural world.
- Solve quantitative problems and interpret solutions.
- Use inductive and deductive scientific reasoning to solve novel problems.

B. Written & Oral Communication

Written/Oral Communications Outcomes

- Demonstrate mastery of engaging, clear, and coherent structures for presenting ideas in a variety of expository and argumentative models.
- Develop ideas logically, clearly, convincingly, and ethically.
- Control the effect of voice in achieving specific communication purposes with specific audiences.
- Control the conventions of language.
- Understand and apply research skills necessary for academic study.
- Employ analysis, synthesis, and evaluation in both writing and reading.
- Exercise proficiency, confidence, and self-reliance in the application of academic activities.

C. Social & Psychological Sciences, History

Social and Psychological Science Outcomes

- Have an awareness of major perspectives in social and individual behavior.
- Be able to apply social science theories to multicultural perspectives.
- Understand how historical experiences influence current theories.
- Be able to apply critical thinking skills.
- Be able to recognize and practice ethical research techniques.

D. Humanities & Fine Arts

Humanities and Fine Arts Outcomes

- Identify a variety of artistic styles, movements, schools of thought/expression, and cultures.
- Analyze, interpret, and evaluate a range of human expressions and values using critical strategies.

	• Engage in imaginative everyone
	Engage in imaginative expression.
	 Appreciate a diversity of world-views or perspectives.
	E. Diversity
	Diversity Component Outcomes
	Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems.
	 Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures.
	 Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture.
A.S. Registered Nursing	For Human Flourishing: Advocate for patients and families in ways that promote their self-determination, integrity, and ongoing growth as human beings.
	For Nursing Judgement: Make judgements 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.
	• For 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.
	For 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.
A.A.S Accounting Technology	Demonstrate knowledge of principles and practices required for financial accounting, managerial accounting, and non profit accounting by analyzing source documents, recording transactions, preparing financial statements, and evaluating accounting information for sole proprietorships, partnerships and corporations
	 ACTG 101, ACTG 102, ACTG 180, ACTG 201, ACTG 202, ACTG 211, ACTG 215
	Demonstrate a broad understanding of the business environment as it relates to legal, ethical, and economic issues

	o BUS 105, BUS 205, BUS 246 or BUS 247, ECNS 101, general electives
	 Demonstrate competency in computer skills ACTG 205, OT114 OR CAPP154, CAPP 156, CAPP 266, all courses with writing assignments.
	 Demonstrate communication skills, critical thinking and problem-solving abilities.
A.A.S Business Technology	 Demonstrate knowledge of principles and practices required for financial accounting, computerized accounting, and payroll accounting by analyzing source documents, recording transactions, preparing financial statements, and evaluating accounting information for sole proprietorships, partnerships and corporations; ACTG 101, ACTG 180, ACTG 205
	Demonstrate a broad understanding of the business environment as it relates to legal, ethical, social and economic issues; PLIS 105, PLIS 205, PLIS 244, FCNS 101, Facility.
	o BUS 105, BUS 205, BUS 246, ECNS 101, English requirement, Social Science elective
	Demonstrate competency in business principles required in marketing, management, finance, and small business entrepreneurship;
	 BUS 200, BUS 210, BUS 231, BUS 260, BUS 261 OR BUS 263, BUS 265, Math requirement, general electives
	 Demonstrate competency in computer applications; OT 114 or CAPP 154, CAPP 156, CAPP 153, all courses with writing assignments
	 Demonstrate communication skills, critical thinking and problem-solving abilities BUS 270, Communications elective, all courses
A.A.S Automotive Technology	Demonstrate safe shop practices and hazardous material handling
	Diagnose and repair automotive electrical systems to NATEF Standard
	Diagnose and repair automotive engine performance, fuel, and emission control systems to NATEF Standard
	Diagnose and repair automotive brakes suspension, and steering systems to NATEF Standard

	Diagnose and repair automotive internal combustion engine systems to NATEF Standard.
	Diagnose and repair automotive powertrain systems (manual and automatic transmission/transaxles and drive axles) to NATEF Standard
	Diagnose and repair automotive heating and air conditioning systems as to NATEF Standard
A.A.S Aviation Maintenance Technology	Read and interpret Federal Aviation Regulations, aircraft service manuals, directives and bulletins to properly complete aircraft maintenance and repairs
	Prepare logbook entries and prepare proper documentation for the repairs completed on an aircraft
	Complete proper jacking procedures, ground handling and servicing on aircraft.
	Prepare weight and balance computations and properly prepare the required documentation
	Evaluate sheet metal, composite structure, fabric covering and structural damage and prepared and complete the required repairs in accordance with approved repair procedures
	Complete repair and maintenance on various airframe components and systems
	Complete repair and maintenance on aircraft reciprocating and turbine engines.
	Return an aircraft to service after maintenance and repair
	Inspect, remove and install non-repairable items such as propellers and aircraft instruments
A.A.S Computer Aided Manufacturing	Perform machining operations to exacting tolerances common in industry.
	Prepare and demonstrate cutting tool applications.
	Prepare, setup, and operate precision manufacturing equipment.
	Interpret and create various blueprint types and information.
	Demonstrate and complete machine and tooling maintenance
A.A.S Network Administration	Students will demonstrate the ability to install, configure, diagnose, repair and upgrade entry-level personal computers, software, and network fundamental components according to industry standards.

	 Plan, install, configure, and manage resources; connect and run applications; monitor, optimize and troubleshoot network software and hardware Determine the type of software or hardware necessary to complete an objective; understand the functions of different operating systems Implement, administer, and troubleshoot a server in a networked environment. Apply the principles of modern microcomputer operating systems, network architecture, hardware architecture, and Subsystems to network, repair and manage operating systems. Solve basic network design and application problems using knowledge of common network architectures and network software.
A.A.S Programming	 Students will demonstrate knowledge of programming concepts, logic, design and problem solving techniques. Develop, deploy and test desktop, distributed, and web applications. Write computer programs using fundamental software development skills. Write computer programs using Object –oriented programming features. Demonstrate critical thinking by applying appropriate data structures and Abstract Data Types (ADTs). Analyze and design information systems and database applications solutions to achieve business/organizational goals. Implement a designed solution to solve business IT problems using state-of-the-art programming techniques and applications software.
A.A.S Diesel Technology	 Demonstrate the ability to safely work in a shop environment Demonstrate their work ethic and professionalism Demonstrate their understanding of diesel systems operation and function of components Demonstrate the ability to properly diagnose the system and perform the proper repairs Demonstrate their ability to work in a live shop environment by interacting with customers, diagnosing and repairing a multitude of failures, working well with other students and properly completing work orders

A.A.S Fire and Rescue Apply the principles of professional conduct by displaying a positive work ethic, flexibility, team work, physical fitness, safety consciousness, and sensitivity to diversity. Demonstrate required understanding, knowledge, and skills in each disciplinary area of emergency services operations related to the Fire and Rescue service. Operate safely and effectively during emergency response simulations and while performing duties during collaboration with or under general supervision of participating external agencies. Demonstrate quantitative literacy related to fire and rescue operations. Communicate effectively and coherently, both in written and verbal formats, while participating in non-emergent and emergent situations A.A.S Metals Perform machining operations to exacting tolerances common **Technology** in industry. Prepare and demonstrate cutting tool applications. Prepare, setup, and operate precision manufacturing equipment. Interpret and create various blueprint types and information. Apply proper techniques for analyzing and producing drawings Demonstrate an understanding of welding processes, codes, and procedures Differentiate manufacturing processes and their applicability Enter the workforce with entry level skills Exhibit good work ethic with an emphasis on safety and professionalism A.A.S Practical For Human Flourishing: Promote the human dignity, integrity, Nursing self-determination, and personal growth of patients, oneself, and members of the healthcare team. For Nursing Judgement: Provide a rationale for judgement used in the provision of safe quality care and for decisions that promote the health of patients within a family context. For Professional identity: assess how one's personal strengths and values affect one's identity as a nurse and one's contributions as a member of the health care team.

	 For Spirit of Inquiry: Questions the basis for nursing actions, considering research evidence, tradition, and patient preferences.
A.A.S Administrative Office Management	• Computer Competency: Students must have a computer competency in Basic MS Office including skills in hardware, software, basic Windows, Internet, Word, PowerPoint, Access, Desktop Publishing and Excel.
	 Communicate ideas in various venues including written and oral, using a variety of media.
	Perform mathematical functions found in business.
	• Function on a team.
	Understand the concepts of Business Law.
	Understand the methodology of Human Resources.
	 Apply critical thinking skills to make effective decisions and solve business problems creatively.
	 Perform keyboarding at a minimum of 40 wpm for a five minute timing with five or less errors and produce accurate business documents in proper format.
	 Exhibit professional ethics.
	• Obtain, organize, analyze, evaluate, and manage information.
	 Identify and compare opportunities for continuous professional development.
A.A.S Medical Administrative Specialist	• Computer Competency: Students must have a computer competency in Basic MS Office including skills in hardware, software, basic Windows, Internet, Word, PowerPoint, Access and Excel.
	 Communicate ideas in various venues including written and oral, using a variety of media.
	Perform mathematical functions found in business.
	Communicate using medical terminology.
	Apply basic accounting methodology.
	Function on a team.
	 Apply critical thinking skills to make effective decisions and solve business problems creatively.
	 Perform keyboarding at a minimum of 40 wpm for a five minute timing with five or less errors and produce accurate business documents in proper format.
	• Exhibit professional ethics.
	• Obtain, organize, analyze, evaluate, and manage information.

	 Understand the concepts of medical ethics, insurance billing and procedures, and medical records. Understand and apply the concepts of ICD-9-CM, CPT, and HCPCS coding. Identify and compare opportunities for continuous professional development.
A.A.S Industrial Welding and Metal Fabrication	 Demonstrate knowledge of industry standards for safety and compliance Demonstrate the proper use of manufacturing equipment Apply proper techniques for analyzing and producing drawings Demonstrate an understanding of welding processes, codes, and procedures Differentiate manufacturing processes and their applicability Enter the workforce with entry level skills Exhibit good work ethic with an emphasis on safety and professionalism
C.A.S Bookkeeping	 Demonstrate knowledge of accounting principles and practices required for profit accounting by analyzing source documents, recording transactions, and preparing financial statements for a sole proprietorship; ACTG 101, ACTG 102 Demonstrate a broad understanding of the business environment as it relates to accounting; BUS 105, general electives Demonstrate competency in computer applications; OT 114 or CAPP 154, CAPP 156, ACTG 205, all courses with writing assignments Demonstrate communication skills and problem-solving abilities. Math requirement, English requirement, Social Science requirement, all courses
C.A.S Computer Skills Specialist	 Computer Competency: Students must have a computer competency in and including skills in hardware, software, basic Windows, Internet, Word, and Excel, Access, and PowerPoint. Communicate ideas in various venues including written and oral, using a variety of media. Perform keyboarding at a minimum speed of 25 wpm for a five minute timing with five errors or less and produce accurate business documents in the proper format.

	 Function as a team. Apply critical thinking skills to make effective decisions and solve business problems creatively. Exhibit professional ethics. Obtain, analyze, organize, evaluate, and manage information. Identify and compare opportunities for continuous professional development.
C.A.S Diesel Technology	 Demonstrate the ability to safely work in a shop environment Demonstrate their work ethic and professionalism Demonstrate their understanding of diesel systems operation and function of components Demonstrate the ability to properly diagnose the system and perform the proper repairs Demonstrate their ability to work in a live shop environment by interacting with customers, diagnosing and repairing a multitude of failures, working well with other students and properly completing work orders
C.A.S Entrepreneurship	 Identify the fundamentals of launching and maintaining a small business; BUS 105, BUS 200, ACTG 101 Describe how external forces of economic resources, legal constraints, and global competition relate to the small business environment; BUS 205, general electives Demonstrate competency in computer applications in maintaining business records; OT 114 or CAPP 154, CAPP 156, ACTG 205, all courses with writing assignments Apply communication skills toward enhancing interpersonal business relationships Math requirement, English requirement, Social Science requirement, all courses
C.A.S Legal Support Specialist	 Computer Competency: Students must have a computer competency in and including skills in hardware, software, basic Windows, Internet, Word, and Excel, Access, and PowerPoint. Understand and communicate using legal terminology and concepts. Communicate ideas in various venues including written and oral, using a variety of media.

	Perform mathematical functions found in business.
	• Perform keyboarding at a minimum speed of 25 wpm for a five-minute timing with five or less errors and produce accurate business documents in proper format.
	• Function on a team.
	 Apply critical thinking skills to make effective decisions and solve business problems creatively.
	• Exhibit professional ethics.
	• Obtain, analyze, organize, evaluate, and manage information.
	 Apply knowledge of the Montana Court System and office skills to prepare and manage legal documents and perform legal research in support of litigation activities.
	• Identify and compare opportunities for continuous professional development in the legal field.
C.A.S Machine Tool Technology	Demonstrate competency in their ability to operate machine shop equipment: lathes, mills, grinders, and drills
	 Demonstrate competency in their ability to read and interpret blueprints per industry standards
	• Successfully demonstrate their ability to write a procedure sheet and manufacture a part to completion in the lab.
	 Apply mathematical concepts used in industry.
	 Apply basic safety practices in the machine shop.
C.A.S Medical Assisting	 Computer Competency: Students must have computer competency in Basic Microsoft Office including skills in hardware, software, basic Windows, Internet Word and Excel.
	• Communicate ideas in various venues including written and oral, using a variety of media.
	 Perform mathematical functions found in business.
	Function on a team.
	 Apply critical thinking skills to make effective decisions and solve business problems creatively.
	• Perform keyboarding at a minimum of 25 wpm of a five minute timing with five or less errors and produce accurate business documents in proper format.
	• Exhibit professional ethics.
	• Obtain, organize, analyze, evaluate, and manage information.
	 Identify and compare opportunities for continuous professional development.

	 Demonstrate ability to apply knowledge of office systems to at least two of the following areas:
	o Professional Office Procedures
	o Records Management
	o Customer Service
	 Medical Transcription
	o Medical Coding
C.A.S Welding Technology	Demonstrate knowledge of industry standards for safety and compliance
	Demonstrate the proper use of manufacturing equipment
	Apply proper techniques for analyzing and producing drawings
	 Demonstrate an understanding of welding processes, codes, and procedures
	Differentiate manufacturing processes and their applicability
	Enter the workforce with entry level skills
	Exhibit good work ethic with an emphasis on safety and professionalism
P.C. Bookkeeping Specialist	Demonstrate payroll and income tax procedures (manually and computerized)
	CAPP 156, ACTG 101, ACTG 102, ACTG 211, ACTG 180, ACTG 205
P.C. Hybrid Vehicle Service Technology	 Identify the main types of hybrid vehicle technologies and discuss the advantages and disadvantages of the various hybrid designs.
	Describe the three types of high voltage safety hazards.
	• Demonstrate the proper use of high voltage personal protective safety equipment when servicing the high voltage system.
	Perform a high voltage system power down procedure.
	Diagnose concerns with high-voltage safety, interlock, and isolation-fault detection systems. Determine necessary action.
	Describe current high voltage battery technologies and their charge/discharge cycles.
	Diagnose common HV battery failures using scan tool data PIDs.
	Describe the operation and function of AC induction electric machines.

- Diagnose the causes of diagnostic trouble codes resulting from malfunctions in the high voltage control system using industry recommended procedures and test equipment.
- Discuss the operation and function of DC-to-AC inverters.
- Perform high voltage cooling system maintenance procedures.
- Describe the basic components and operating cycles of DC-DC converters
- Describe the operation of an electric power steering system.
- Explain the operation of various sensor inputs and how they affect steering output.
- Determine failures and diagnose faulty electric steering components and sensors.
- Explain basic vehicle braking operation.
- Describe the operation of regenerative braking and understand the components role in a braking event.
- Diagnosis faulty brake components and demonstrate proper repair procedures.
- Explain hybrid vehicle heating components
- Describe electric A/C compressor operation.
- Describe the A/C system refrigerant loop and system pressure reading.
- Determine heating and A/C failures and diagnosis repair.
- Demonstrate proper A/C repair procedures and precautions.

P.C. Environmental Design Studies

- Demonstrate an understanding of design fundamentals and their application to the practice of interior design by successfully completing exams and projects.
- Demonstrate an understanding of the concept and theory of design by successfully completing projects.
- Demonstrate the ability to apply the design process to interior design problems utilizing programming, conceptual schematics, and design development skills by successfully completing assignments and projects.
- Demonstrate knowledge of interior materials, specifications, and maintenance by successfully completing exams and projects.
- Demonstrate knowledge of "green" materials and specifications through successfully completing research projects and various studio projects.

	Demonstrate knowledge of history in interiors and furnishings by successfully completing assignments and exams.
	 Demonstrate an ability to communicate information through competent skills in hand drawings and CAD drawings.
	Demonstrate presentation skills, including lettering, drawing, perspective, and preparation of design boards and models.
	Demonstrate an understanding of professional practice and project management skills by successfully completing assignments and projects.
	 Demonstrate an understanding of the codes, regulations, and standards that protect the health, safety and welfare of the public by successfully completing assignments and projects.
P.C. Human Resource Specialist	 Demonstrate human resource management skills BUS 105, BUS 261
	Understand business law practicesBUS 263
	Identify business ethics situationsBUS 205
	Demonstrate payroll procedures related to human resource management
	o ACTG 101, ACTG 180

APPENDIX 2 – COURSE OUTCOMES (REPRESENTATIVE SAMPLE)

COURSE STATEMENT

AHMS105 – HEALTHCARE DELIVERY SYSTEMS

Program/Department: A.A.S. Administrative Office Management, A.A.S. Medical Administrative Specialist, C.A.S. Computer Skills Specialist, C.A.S. Legal Support Specialist, C.A.S. Medical Assisting

Course Prefix/Number: AHMS105

Total Hours: 45 Lecture: 45 Lab:

Credits: 3

Co-requisites: None

Prerequisite(s): None

Diversity: No

General Education Core: No.

CLEP/AP: No

Experiential Learning: No

Challenge: No

COURSE DESCRIPTION:

This course will allow students to develop an understanding of the history and development of today's healthcare system in the United States. Students will develop an understanding of various types of facilities, the "continuum of care" concept that is the basis for modern health care, and examine the quality management process. The course also provides students with a working knowledge of reimbursement mechanisms and managed care concepts that affect health care delivery.

LEARNING OUTCOMES:

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

List the types of healthcare facilities common today in the United States.

Define "continuum of care."

Describe the major influences on healthcare facilities and reimbursement methods.

Discuss technological advances in medicine that have affected the healthcare industry.

Discuss the major associations influencing medicine today and their development and importance.

Compare and contrast acute care, long-term and ambulatory care.

Map the organizational structure of typical healthcare organizations.

Describe the development of compliance programs and the Quality Management process.

AHMS108 – HEALTH DATA CONTENT & STRUCTURE

Program/Department: Office Technology

Course Prefix/Number: AHMS108

Total Hours: 45 Lecture: 45 Lab:

Credits: 3

Co-requisites: None

Prerequisite(s): None

Diversity: No

General Education Core: No.

CLEP/AP: No

Experiential Learning: No

Challenge: No

COURSE DESCRIPTION:

This course provides an in-depth study of origin, use, content and structure of health records; storage and retrieval systems; numbering and filing systems; documentation requirements; use and structure of health care data sets; and how these components relate to primary and secondary record systems. Students will also develop an understanding of the compilation and computing of healthcare related statistics, use of research and statistical methods for developing healthcare data into information for various requesters.

LEARNING OUTCOMES:

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

Identify the history of health information management and its accrediting organization AHIMA.

Identify components of health record data set.

Describe patient's right to privacy and requirements for maintaining confidentiality of health information.

Identify regulations and standards for creating and maintaining medical records.

Identify the terminology and technology for implementing electronic health records.

Explain current processes, forms, and support practices for healthcare reimbursement.

Identify techniques for storage, maintenance of health records, registries and indices.

Identify timeliness, completeness, accuracy and appropriateness of data sources.

Identify basic documentation for diagnosis and progress of the patient.

Identify various functional components of integrated delivery system.

AHMS144 - MEDICAL TERMINOLOGY

Program/Department: Office Technology

Course Prefix/Number: AHMS144

Total Hours: 45 Lecture: 45 Lab:

Credits: 3

Co-requisites: None

Prerequisite(s): None

Diversity: Yes

General Education Core: No.

CLEP/AP: No

Experiential Learning: No

Challenge: No

COURSE DESCRIPTION:

The course introduces students to complex medical terminology and facilitates students in recognizing that the meaning of complex medical terms can be determined by analyzing simpler components using prefixes, suffixes, and word roots. Correct pronunciation, definition, and spelling of these terms are derived through extensive usage of the textbook and computer software exercises. This course will connect the medical terminology to the basic structure and functioning of the systems of the human body including aspects of normal physiology and function, deviations from normal, diseases, and maintenance of health.

LEARNING OUTCOMES:

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

Demonstrate an understanding of the rules for combining word parts to correctly write medical terms.

Write the medical terms pertaining to the different body systems, physiology, and diseases, and anatomical directional terms and body planes that are presented throughout the course.

Define the medical terms pertaining to different body systems, physiology, and diseases that are presented throughout the course.

Use resource materials to locate medical terms and definitions.

M115 - PROBABILITY AND LINEAR MATHEMATICS

Program/Department: General Education

Course Prefix/Number: M115

Total Hours: 45 Lecture: 45 Lab:

Credits: 3

Co-requisites: None

Prerequisite(s): A "C-" or higher in M080 or M092 or satisfactory score on placement test

Diversity: No

General Education Core: Yes

CLEP/AP: No

Experiential Learning: No

Challenge: No

COURSE DESCRIPTION:

This course is intended to give an overview of topics in finite mathematics together with their applications. Topics covered include linear equations and functions; systems of linear equations and matrices; sets and counting; probability and statistics; and finance.

LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

Identify set operations and solve applications problems.

Identify and use the properties, notations, and formulas associated with probability and statistics.

Solve linear model and regression application problems.

Solve systems of linear equations.

Perform matrix operations.

Use permutations and combinations appropriately.

Calculate probabilities.

Calculate expected values for random variables.

Compute variance and standard deviation.

Apply mathematical skills to practical problems.

M121 - COLLEGE ALGEBRA

Program/Department: General Education

Course Prefix/Number: M121

Total Hours: 45 Lecture: 45 Lab:

Credits: 3

Co-requisites: None

Prerequisite(s): A "C-" or higher in M093 or satisfactory score on placement test

Diversity: No

General Education Core: Yes

CLEP/AP: Yes

Experiential Learning: No

Challenge: Yes

COURSE DESCRIPTION:

This course is the study of polynomial, rational, radical, exponential, and logarithmic equations, inequalities, functions, and related graphs; circular equations and graphs; and systems of linear and non-linear equations and inequalities.

LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

Solve polynomial, rational, radical, logarithmic and exponential equations and inequalities.

Identify relations versus functions.

Use function notation.

Identify domain, range, intervals of increasing decreasing, and constant values.

Algebraically and graphically identify even and odd functions.

Graph polynomial, rational, radical, logarithmic, exponential and piece-wise functions by identifying x-intercepts, y-intercepts, domain, range and asymptotes.

Use algebra to combine functions and form composite functions, evaluate both combined and composite functions, form their graphs and determine their domains.

Identify one-to-one functions, find and verify inverse functions and sketch their graphs.

Solve systems of linear and non-linear equations and inequalities.

Model and solve problems using linear and non-linear functions.

M132 - NUMBERS AND OPERATIONS FOR K-8 TEACHERS

Program/Department: General Education

Course Prefix/Number: M132

Total Hours: 45 Lecture: 45 Lab:

Credits: 3

Co-requisites: None

Prerequisite(s): A "C-" or higher in M088 or satisfactory score on placement test, or consent

of instructor

Diversity: No

General Education Core: Yes

CLEP/AP: Yes

Experiential Learning: No

Challenge: Yes

COURSE DESCRIPTION:

This course is the study of number and operations for prospective elementary and middle school teachers. Topics include all subsets of the real number system, arithmetic operations and algorithms, numeration systems, number theory, and problem solving.

LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

Model the number systems: natural numbers, whole numbers, integers, rational numbers, and real numbers.

Use properties to communicate the process of solving problems in elementary mathematics.

Perform arithmetic operations with manipulatives.

Solve problems with mathematical modeling.

Identify and solve problems in elementary mathematics such as arithmetic on number systems, ratios, proportions, percent's, and basic algebra.

Use and model modular arithmetic to solve problems involving analog and digital time.

Apply number theory concepts and theorems, including greatest common factors, least common divisor, properties of prime and composite numbers, and tests for divisibility

Recognize some common misconceptions and be able to understand the faulty reasoning behind those misconceptions.

Communicate mathematics in spatial, oral, and written forms.

MCH130 - MACHINE SHOP

Program/Department: Machine Technology

Course Prefix/Number: MCH130

Total Hours: 75 Lecture: 15 Lab: 60

Credits: 3

Co-requisites: M11T or M121 or higher

Prerequisite(s): None

Diversity: No

General Education Core: No

CLEP/AP: No

Experiential Learning: No

Challenge: No

COURSE DESCRIPTION:

This course includes an emphasis on shop and work area safety. Instruction covers standard shop work, such as measurement, layout, basic hand tools, drills, drill presses, and taps and dies. Use of a pedestal grinder will also be covered. Work assignments incorporate projects requiring use of the above machines, tooling, and emphasize safety.

LEARNING OUTCOMES:

<u>Upon successful completion of this course, students will be able to:</u>

Identify and properly use hand and measuring tools in a safe manner.

Use proper set-up and operation of drill presses.

Properly sharpen, care for and use cutting tools such as drills, taps, dies, reamers and basic hand tools.

Measure properly using tapes, rules, and verniers.

Use proper procedures in set-up and operation of the pedestal grinders.

Employ proper procedures in the use of layout equipment such as vernier height gage, surface gage, scribes, and assorted layout blocks.

Demonstrate safe and proper use of hand tools such as files, hacksaws, chisels, scribes, punches, etc.

Demonstrate proper use of taps, dies, helicoils, and threaded inserts.

Given various jobs, students will set-up and use precision layout tools such as surface gage, layout table, height gage, etc.

Demonstrate how to properly sharpen drill bits, lathe tools, chisels, screwdrivers, punches, etc.

Explain and demonstrate proper care, safety, and maintenance of bench and pedestal grinders.

Set-up and properly use the mill press and radial arm drill press in accordance with operation manuals.

Identify and demonstrate proper procedures in using a center drill, countersink, counter bore, and reamers.

MCH132 - INTRODUCTION TO ENGINE LATHES

Program/Department: Machine Technology

Course Prefix/Number: MCH132

Total Hours: 105 Lecture: 45 Lab: 60 Shop: 0

Credits: 5

Co-requisites: None

Prerequisite(s): None

Diversity: No

General Education Core: No.

CLEP/AP: No

Experiential Learning: No

Challenge: No

COURSE DESCRIPTION:

This course covers tool bit grinding, facing, turning, boring, parting off, threading, tapering, knurling, trepanning, between center work, and use of faceplates and steady rests. Engine lathe safety will also be covered. The use and care of precision measuring tools will be covered.

LEARNING OUTCOMES:

<u>Upon successful completion of this course, students will be able to:</u>

Set-up and operate metal lathes.

Understand safety aspects of the lathe.

Correctly grind a lathe tool bit.

Complete projects utilizing all the machining and tooling techniques of lathes.

Use and care for precision measuring equipment.

Demonstrate knowledge in proper use of precision measuring devices, such as micrometers, dial calipers, vernier calipers, etc.

Create required projects utilizing facing, turning, boring, and parting off procedures.

Identify basic thread systems and demonstrate how to make each on a metal lathe.

Demonstrate proper use and care of dial indicators.

Demonstrate grinding of a turning, facing, boring, threading, and radius tool bits.

Students will demonstrate the use and set-up of a steady rest.

Demonstrate the use of faceplates.

Demonstrate proper safety procedures associated with the lathe.

Set-up and demonstrate proper use of a tool post grinder on a lathe.

APPENDIX 3 – CORE THEMES

Please note that Core Theme 2, Objective 1, Indicators 1 and 2 refer directly to student learning outcomes. This addition to the core themes indicators acknowledges the centrality of student learning to Helena College's mission fulfillment.

Core Theme One: Student Access and Success				
	Objective 1: Helena College achieves its strategic enrollment management goals			
Ind	icators of Achievement	Metric	Desired Outcome*	
1.	Enrollment in credit-	Average Annual FTE	AAFTE Baseline: 856	
	bearing programs and	(AAFTE)	AAFTE Target: 900 ↑	
	courses			
2	Dual Enrollment	Annual headcount in	Annual Headcount Baseline: 642	
۷.	Dodi Liliolililelli	high school dual-credit	Annual Headcount Target: 687 ↑	
		courses	Tangar roadsoon ranger so	
2	Datastas	Percentage of first-time	Baseline: 52%	
٥.	Retention	freshmen and new transfer	Target: 57% ↑	
		students returning for a	Turger. 37 70	
		second year of enrollment		
OF	piactiva 2: Halana Callaga stur	dents achieve their educational god		
		Percentage of first-time	Baseline: 32%	
Ι.	Completion of	entering students	Target: 35%↑	
	gateway math and		Targer: 5570	
	writing courses	completing college-level		
		math and writing within 3		
		semesters	D 1. 750/	
2.	Course Success Rate	Percentage of students	Baseline: 75%	
		earning C- or higher or	Target: 75% ↔	
		"P" for pass/no pass		
		courses across all delivery		
		modes (face-to-face,		
		hybrid, online)		
3.	Completion of	Number of degrees and	Baseline: 254	
	certificate and degree	certificates completed	Target: 245 ↔	
	programs	annually		
	1 3			
		Percentage of entering	Baseline: 26%	
		students that graduate in	Target: 30% ↑	
		three years or 150% time		
Δ	Transfer	Percentage of entering	Baseline: 19%	
7.	Halloidi	AA/AS students	Target: 20% ↑	
		transferring to four-year		
		institutions within three		
		years		
F	Englanda Data	Percentage of students	Baseline: 84%	
٦.	Employment Rates	completing CTE	Target: 80% ↔	
		Leambiening CTF	iuigei. 00 /0 🕶	

credentials who are	
employed within one year	
following graduation	

Rationale: Objectives 1 and 2 under Core Theme One reflect Helena College's commitment to provide students with access to higher education and the opportunity to achieve their educational goals including technical education for careers, general education for transfer to baccalaureate programs or taking courses for personal enrichment or professional advancement. At the same time, the College must achieve identified enrollment goals in order to sustainably deliver high quality programs and services to students and remain responsive to community needs. This combination of strategic enrollment indicators, which determine the College's base funding and eligibility for Montana University System Performance-Based Funding (MUS-PBF), and student success indicators related to progression, completion, transfer and employment provide meaningful, assessable and verifiable means to evaluate the achievement these objectives.

^{*}Unless noted otherwise, baselines represent most current three-year average for the metric

Core Thomas Turo, High Quality	Education	
Core Theme Two: High Quality	ents demonstrate achievement of lear	rning outcomes
Indicators of Achievement	Metric	Desired Outcome*
Institutional Competencies	Percentage of students demonstrating competency in information literacy and diversity	Baseline: TBD Target: TBD
Program Learning Outcomes	Percentage of program outcomes achieved by students during each academic year	Baseline: TBD Target: 70%
3. Transfer success	Percentage of transfer students in good academic standing (2.0 or better GPA) after 1st semester following transfer to 4 year institution	Baseline: 82% Target: 80% ↔
	1st semester GPA following transfer	Baseline: 2.93 Target: 3.00↑
4. Professional license and certification pass rate	Percentage of students attempting professional licensing exams and certifications that successfully pass	Baseline: Nursing RN – 100% PN – 98% Aviation General: 100% Airframe: 100% Powerplant: 94% Target: 85% ↔

Objective 2: Helena College supports professional growth opportunities for faculty and staff to advance excellence in teaching and delivery of support services		
Professional Development	Professional development resources and opportunities	Baseline: TBD Target: TBD
	are identified, prioritized, and supported each year	Level of Investment (% of budget)
		Professional Dev Deliverables (% achieved)

Rationale: Objectives 1 under Core Theme Two represent the College's commitment to provide a high quality educational experience as demonstrated by student achievement of institutional and program level learning outcomes assessed on a regular basis for the purpose of continuous improvement. The selection of appropriate measures and implementation of processes to assess the two institutional competencies is currently under development to establish baselines and targets. The subsequent academic success of transfer students and the rate at which career and technical students successfully pass licensing and certification exams required for employment also provide effective measures of the quality of education the College provides. Objective 2 emphasizes the importance of institutional support and resources for faculty and staff professional development to enhance teaching and delivery of support services, and continuous assessment of its adequacy and effectiveness. These five indicators provide meaningful, assessable and verifiable means to evaluate the achievement these objectives.

^{*}Unless noted otherwise, baselines represent most current three-year average for the metric

Core Theme Three: Community Enrichment		
Objective 1: Helena College is responsive to regional workforce development needs		
Indicators of Achievement	Metric	Desired Outcome*
1. Assessment of workforce	% of relevant programs	Baseline: TBD
needs	completing a workforce	Target: 80%
	needs assessment on a	
	three-year schedule.	
2. Responsiveness to	# of projects, partnerships,	Baseline: TBD
Workforce needs	curricular revisions, CE	Target: TBD
Tremeree mead	offerings tied to the results	
	of needs assessments	
	Percentage of employers	Baseline: TBD
	indicating satisfaction with	Target: 75%
	workforce development	
	offerings and initiatives	
Objective 2: Helena College provides cultural, intellectual and social resources for the community		
Indicators of Achievement	Metric	Desired Outcome
1. Community use of	# of community events	Baseline: 45 events/year
campus facilities	hosted on Helena College	
	campuses per year.	Target: 50 events/year ↑

	College sponsorship of social, intellectual and/or cultural events or activities open to community participation	# of college sponsored events/activities open to community participation per year	Baseline: 8 events/year Target: 10 events/year ↑
		ers with the community to expand op	í
Ind	icators of Achievement	Metric	Target
1.	Participation in non- credit/credit continuing and community education programs	Annual Headcount Enrollment (AHE) in continuing education courses and programs	AHE Baseline: 1,720 Target: 1,775 ↑
2.	Completion of non- credit credentials	Completion rate for credential bearing non-credit programs	Baseline: TBD Target: 80%
3.	Adult Education	Annual transition rate of Adult Education (AE) and Access to Success (A2S) program completers to Helena College	Baseline: AE-10% (5 year average) A2S-22% (5 year average) Target: Adult Education- 15% ↑ Access to Success- 25% ↑
4.	Service to community by faculty, students and staff	# of service hours to the community (including student internships, service-learning, and staff involvement in community)	Baseline: 24,700 (1 yr of data) Target: 25,000 ↑
5.	Use of credit and non- credit programs to support community needs	# of CE programs provided annually to community partners	Baseline: 11 Target: 11 ↔

Rationale: Objectives 1-3 under Core Theme Three reflect the College's mission to meaningfully engage and enrich the diverse community it serves. New indicators under Objective 1, which will require development and implementation of a needs assessment tool and a satisfaction survey over the next academic year, will measure how effectively the College identifies and responds to regional workforce development needs. Evaluation of the achievement of Objective 2 relies on well-established indicators that measure community use of campus facilities as well as cultural, intellectual and social programming hosted by the College and open to the community on an annual basis. Five indicators demonstrating community partnerships and activities focused on expanding learning and service opportunities measure achievement of Objective 3. Indicators 1, 2 and 5 measure the participation in, success of, and partnerships developed by the Continuing Education program. Indicator 3 relates to partnership with the Helena School District Adult Education (HiSET) and Access to Success (high school diploma completion) programs. They are both hosted by the College to expose participants to a higher education environment to

encourage further educational attainment. Indicator 4 measures formal and informal service to the community by staff and faculty, as well as student service learning, internship and clinical hours completed each semester, data the College has been collecting and reporting since the spring of 2016. Together these objectives and indicators provide a comprehensive framework to evaluate the achievement of Core Theme Three.

*Unless noted otherwise, baselines represent most current three-year average for the metric

Helena College University of Montana	Ad Hoc Self-Evaluation Report on Recommendation #4
	This page is intentionally left blank

APPENDIX 4 – REDESIGN PROJECT WORK PLAN

Since 2016, principles of redesign following the Guided Pathways model have been implemented by various entities at the College. Beginning in Fall 2017, a concerted effort was made to engage a broad cross-section of the College in deliberate dialogue around student success, student learning, completion, and acceleration to completion—a conversation that will be informed by assessment data from the assessment database, among other sources. All of these conversations have been grounded by the seminal book *Redesigning America's Community Colleges* by Bailey, Jaggars, and Jenkins (2015) and by the work of Complete College America on the same topic. The Guided Pathways to Success rubric developed by Davis Jenkins has structured the conversations of that group, and the following is a nascent work plan developed by the Redesign Project Steering Committee in January, 2018. Action items have been identified and sub-committees have formed to begin implementation.

Mapping Pathways to Student End Goals

Work Group: Robyn Kiesling, Jan Clinard, Nathan Munn, Mary Lannert, Patrick Turner

- Advisory Councils:
 - Open advisory council meetings to anyone, including student services. Sharing information from advisory council meetings is important.
- Program Review:
 - Look at programs with low job opportunities. If there are no jobs available, should the program exist?
- Development of Pathway Information:
 - Further develop meta majors so that students and advisors have more information. This will lead to stronger tools, i.e. degree planning sheets and catalog.
- Website Development:
 - Take website information deeper, for both credit and non-credit programs.
 Employment information is needed on the website! Real-time job postings, internships, employer information, etc.
- Open Communication:
 - Professional development opportunities for entire campus. Bring speakers from DOL, job services, etc. for lunch and learn meetings.
- Student/Alumni Sessions for Students:
 - Bring graduates back to speak with students on a regular basis. Former students can best articulate what they did to find employment and what they wished they'd done differently.
- Internship Coordinator:
 - o Internships for all programs should be posted on the website so both students and employers can see what's available.

- o Constant connection to the employers in the region is critical.
- o Internships (and the process) should belong to the institution, not just academics or student affairs.
- Packaging Critical Courses in Meaningful Ways:
 - O Why should courses be taken together? What does the student gain by taking them at the same time? How are faculty reinforcing that connection in their courses? How is that information shared with all advisors so advising is consistent?
 - Math and writing are critical courses. They have to be taken in the first semester.
 - o Structured scheduling should be explored for all programs.
- Data Tracking:
 - o Better use of data in informing decisions.

Helping Students Enter a Pathway

Work Group: Ann Willcockson, Betsy Hussey, Michael Wiederhold

- Every student, including the many who arrive without clear plans for college and careers, is helped to explore career/college options and choose a program of study as soon as possible.
 - o What needs to change to improve Student Success?
 - Publish and maintain employment and wage projections along with most recent graduate placement rates on website, printed recruitment materials, etc. Develop career exploration process for undecided students (1st year experience?)
 - System designed to identify & serve undecided students
 - Clearer presentation of options
 - Develop career exploration process
 - Who needs to be involved in implementing the changes?
 - First Year Advisors
 - Mike Brown for Data
 - Financial Aid
 - Career Services
 - Where do undecided Students fall? Is that still SSC?
- Special supports are provided to help academically unprepared students to succeed in the "gateway" courses for the college's major program areas (such as BIO 101, Anatomy & Physiology, Econ 101, American History, etc.) – not just for college-level math and English.
 - O What needs to change to improve Student Success?

- Consider implementing supplemental instruction for difficult gateway courses
 - Perhaps tailor for a specific study area
- Academics and Student Affairs need to collaborate more and find ways to offer support to students in intro/gateway courses. First Year Experience courses that are designed around specific pathways/cohorts and that are taught by program faculty and supported by Student Affairs could offer tremendous support for students.
- Open labs
- Who needs to be involved in implementing the changes?
 - Faculty & Student support
- Required math courses are appropriately aligned with the student's field of study.
 - What needs to change to improve Student Success?
 - Dependent on 4 year mapping
 - Clearer Math paths
 - Co-requisites for all entry-level math courses
 - Who needs to be involved in implementing the changes?
 - Math faculty
- Intensive support is provided to help very poorly prepared students to success in college-level courses as soon as possible.
 - What needs to change to improve Student Success?
 - Continue to explore and implement best practices in developmental education. Require and ensure that all students can complete developmental courses during 1st year. Need to use consistent positive language in explaining and discussing the necessity of developmental coursework
 - Convince the student to take advantage of the opportunities for success.
 - Convince the students that the help is not a bad thing, it is an important part of the process
 - Does OCHE have certain requirements here?
 - Who needs to be involved in implementing the changes?
 - Advisors
 - A committee is needed to serve poorly prepared students
- Assistance is provided to students who are unlikely to be accepted into limited access programs such as nursing or culinary to pursue another viable path to a credential and a career.
 - What needs to change to improve Student Success?
 - Develop other viable paths & make students aware of them
 - Who needs to be involved in implementing the changes?
 - Faculty

- Support Staff
- Advising

Keeping Students on the Path

Working Group: Sarah Dellwo, Amy Kong, and Dave Jones

- College monitors which program students are in and how far along they are toward completing their program requirements.
 - Current Practice Respondents were unsure about how this was done or commented that it was done with the individual advisor. Effectiveness would depend on the individual advisor. A couple people mentioned the 60 credit milestone in Starfish as helping to track this.
 - o **Recommendation** The college needs a consistent system and tool. Currently we use Starfish notes and degree planning sheets. In order to be consistent, there would need to be a requirement that advisors are using the appropriate tools.
 - o **Participants** Leadership and Advisors
- Students can easily see how far they have come and what they need to do to complete their program and prepare for further education and employment.
 - Current Practice Manual degree sheets are used and it depends on consistency of advisors and the students keeping them. Degree sheets uploaded in Starfish cannot be seen by students, which is not effective.
 - o **Recommendation** In the short term, develop an earlier milestone to be a check in spot on degree audits. See if students can access the degree program sheet in Starfish. In the long term, need to develop an online degree planning system.
 - o Participants Leadership, Advisors, Registrar's Office, SSC, and IT
- The college tracks student progress to ensure that they are staying on plan and making progress.
 - Current Practice Up to the individual advisors. Some were not sure if this
 happens or felt more could be done. There was also a mention that the Registrar's
 Office does this when they earn a certain amount of credits, and that is incorrect.
 - Recommendation Use Starfish to track when students are off progress. This
 would have to used consistently to be effective and should be required. An online
 degree system would help to make this more automatic.
 - Participants Leadership, Advisors, Registrar's Office, SSC, and IT
- The college is able to identify when students are at risk of falling off of their program plans and for intervening effectively when this happens.
 - Current Practice Most people indicated Starfish was being used for this. Also there
 was a mention of the Academic Recovery Plans, which students are on if they are on
 Academic Probation or SAP.
 - o **Recommendation** Starfish is used to track progress in a course, but there needs to be more information gathering if it is helping them stay on track in the program.

Students need to be well educated on how to read the degree sheets and the importance of the plan. A degree planning tool would help in this.

- o **Participants** Advisors
- The college schedules courses to ensure students take the courses they need when they
 need them, can plan their lives around school from one term to the next, and can
 complete their programs in as sort a time as possible.
 - O Current Practice Most respondents agree this could be done more efficiently, but there is wide array of opinion on what that means. Does it mean more night classes, more non-traditional offerings, or just a more consistent schedule? An effort is made but sometimes resources do not allow for it.
 - o **Recommendation** Review schedule for structured scheduling and help to create more consistent schedules.
 - o Participants Academics, Faculty, Advisors, and Registrar's Office
 - o Main take away A degree planning tool would help with many of these items, but it would have to used consistently to truly be effective.

Ensuring That Students Are Learning

Work Group: Della Dubbe, Sandy Sacry, Patrick Turner, Chad Hickox, Michael Brown, Bryon Steinwand

- Learning outcomes are clearly defined for each of our programs (not just courses).
 - o Major theme:
 - Audit/rewrite/review/refine program outcomes
 - o Action/by whom: Faculty, Academic Admin, IR
 - o Action items suggested:
 - Faculty and administrator(s) involved in each program will review program outcomes to make sure course outcomes are reflected in and mapped to at least one program outcome. Further, that each program outcome is meaningfully worded to best encompass course outcomes.
 - Administration and IR will develop a method to enable this and instruct program reviewers in the procedure.
 - Responsibility for this process could also fall to ASCRC or a subcommittee thereof.
 - If completed at program level, would then be approved by ASCRC (my addition[®]).
- Learning outcomes are aligned with the requirements for success in the further education and employment outcomes targeted by each program.
 - o Major themes:
 - Develop a way to document the work of advisory councils

- Develop a systematic process in which employers and advisory councils review and provide feedback on program learning outcomes.
- Action/by whom: Faculty, academic administrators, advisory councils
- Action item suggested:
 - Facilitators for advisory councils will ensure that program outcomes are reviewed during council meetings and advice is brought back to administration.
- Faculty assess whether students are mastering learning outcomes and building skills across each program.
 - o Major themes:
 - More structure/mapping
 - Map curriculum to document where program learning outcomes are introduced, reinforced, and formally assessed.
 - We should be more structured (mapping?).
 - o Action/by whom: Faculty, academic administration, IR
 - Action items suggested:
 - Collect data regarding which assessment tools are used for which outcomes.
 - Chad, Bryon and Mike are developing digital forms for entry of course level assessment data into an assessment database. This will enable course level assessments to be mapped to their respective program level outcomes to inform program level assessments.
 - Provide professional development on effective tools for assessment for different types of outcomes.
 - Provide professional development in the use of the assessment database.
- Faculty use the results of learning outcomes assessment to improve the effectiveness of instruction in their programs.
 - o Major themes:
 - The college need to provide a venue for faculty to enter data and provide evidence on this.
 - Develop a reporting tool/process for assessment of course and program level outcomes.
 - o Action/by whom: Faculty, academic admin, IR
 - Action items suggested:
 - See above assessment database development.
 - Set a percentage target for effectiveness of assessment tools used for different types of outcomes.
 - Faculty report (in the database or elsewhere) on changes to course assessments and why.

- (A thought the more faculty is involved in the process, the more effective the instruction.)
- The college tracks mastery of learning outcomes by individual students and that information is easily accessible to students and faculty.
 - o Major themes:
 - Needs to start happening
 - Should be published as student achievement of program level outcomes
 - o Action/by whom: Faculty, admin, IR
 - o Action item suggested:
 - Work on a. through d. first, keeping this in mind.