Curriculum Committee Proposal Summary
1/28/2016

Department: Academic Affairs
Hi Everyone,

A University College is a unit of a University that usually houses Liberal Arts degree programs, supplemental education programs and courses, and occasionally developmental education and options for career and major planning.

There has been conversations in upper administration at CMU about moving from WCCC/developmental-supplemental programs, under the umbrella of a “University College” as a clearly defined unit of CMU. Presently, for example, WCCC exists as a “Division of CMU”. The establishment of a University College within CMU would allow us to promote and identify WCCC and other programs, not housed in existing departments, more clearly. The Provost has indicated that the UNIV prefix would reflect this unit as well and this may be an initial step in moving in University College direction. Also the term “supplemental” has a somewhat negative connotation among students. So my thinking is that CMU may establish a University College model for SUPP and WCCC components. Presently SUPP is “homeless” and resides in Academic Affairs, moving these courses and their governance to a University College within CMU makes better sense. If you need to know more about what a University College might look like follow the links below:

http://www.unco.edu/universitycollege/

https://nau.edu/university-college/

http://www.memphis.edu/univcoll/

Steve Werman

Hi Steve,

The only thing that came up from the UCC executive subcommittee review of the SUPP course modification proposals was just a request for an explanation of what “University College” refers to. Could you please send a sentence to clarify that to add to the justification?

Thanks,
Jessie

2015-16 Undergraduate Curriculum Committee
Jeremy Hawkins, Chair (ext. 1374)
Scott Kessler, Vice-Chair (ext. 1673)
Jessie Barnett, Recording Secretary (ext. 1463)
Course Modifications

SUPP 096

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>SUPP</td>
</tr>
<tr>
<td>Course No.:</td>
<td>096</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>1-3</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Gearing Up for College</td>
</tr>
<tr>
<td>Requirement or listed choice for any program of study:</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Justification:
The prefix change was recommended by the WGISAS group to the VPAA to be reflective of the University College designation. Formerly SUPP courses were not assigned to any academic department, but rather the Office of Academic Affairs. This course will be assigned to the University College in the future.

Proposed by: Steve Werman

Expected Implementation: Fall 2016

SUPP 100

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>SUPP</td>
</tr>
<tr>
<td>Course No.:</td>
<td>100</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>1</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Higher Education Success Skills</td>
</tr>
<tr>
<td>Abbreviated</td>
<td>Higher Ed. Success Skill</td>
</tr>
<tr>
<td>Requirement or listed choice for any program of study:</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Justification:
The prefix and title change was recommended by the WGISAS group to the VPAA to clarify that the 100 course is intended for first year students needing basic college success skills before moving into SUPP/UNIV 101. The course does not cover the breadth of Higher Education, but rather basic success skills for entry level college work, hence the title change. Also, the prefix is reflective of the University College designation. Formerly SUPP courses were not assigned to any academic department, but rather the Office of Academic Affairs.

Proposed by: Steve Werman

Expected Implementation: Fall 2016

SUPP 101

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>SUPP</td>
</tr>
<tr>
<td>Course No.:</td>
<td>101</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>2</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Introduction to Higher Education</td>
</tr>
<tr>
<td>Abbreviated</td>
<td>Intro to Higher Ed.</td>
</tr>
<tr>
<td>Requirement or listed choice for any program of study:</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Justification:
The prefix and title change was recommended by the WGISAS group (fall of 2015) to the VPAA to clarify the intention of the 101 course for first year students. The change in prefix is reflective of the University College designation. Formerly SUPP courses were not assigned to any academic department, but rather the Office of Academic Affairs. In the future they will be aligned with a University College.

Proposed by: Steve Werman
Expected Implementation: Fall 2016

SUPP 105

Current
Course Prefix: SUPP
Course No.: 105
Credit Hours: 1
Course Title: Competency Portfolio Development

Proposed
Course Prefix: UNIV

Justification:
The prefix change was recommended by the WGISAS group to the VPAA to be reflective of the University College designation. Formerly SUPP courses were not assigned to any academic department, but rather the Office of Academic Affairs. This course will be assigned to the University College in the future.

Proposed by: Steve Werman
Expected Implementation: Fall 2016

SUPP 196

Current
Course Prefix: SUPP
Course No.: 196
Credit Hours: 1-3
Course Title: Topics

Proposed
Course Prefix: UNIV

Justification:
The prefix change was recommended by the WGISAS group to the VPAA to be reflective of the University College designation. Formerly SUPP courses were not assigned to any academic department, but rather the Office of Academic Affairs. This course will be assigned to the University College in the future.

Proposed by: Steve Werman
Expected Implementation: Fall 2016

SUPP 201

Current
Course Prefix: SUPP
Course No.: 201
Credit Hours: 3
Course Title: Theory and Practice of College Peer Tutoring

Proposed
Course Prefix: UNIV

Requirement or listed choice for any program of study: Yes ☑ No ☐
The prefix change was recommended by the WGISAS group to the VPAA to be reflective of the University College designation. Formerly SUPP courses were not assigned to any academic department, but rather the Office of Academic Affairs. This course will be assigned to the University College in the future.

**Proposed by:** Steve Werman  
**Expected Implementation:** Fall 2016

<table>
<thead>
<tr>
<th>Course Prefix</th>
<th>Course No.</th>
<th>Credit Hours</th>
<th>Course Title</th>
<th>Requirement or listed choice for any program of study</th>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPP</td>
<td>202</td>
<td>2</td>
<td>Sophomore Year Experience</td>
<td>Yes ☐ No ☑</td>
<td>SUPP</td>
<td>UNIV</td>
</tr>
</tbody>
</table>

**Justification:**
The prefix change was recommended by the WGISAS group to the VPAA to be reflective of the University College designation. Formerly SUPP courses were not assigned to any academic department, but rather the Office of Academic Affairs. This course will be assigned to the University College in the future.

**Proposed by:** Steve Werman  
**Expected Implementation:** Fall 2016

<table>
<thead>
<tr>
<th>Course Prefix</th>
<th>Course No.</th>
<th>Credit Hours</th>
<th>Course Title</th>
<th>Requirement or listed choice for any program of study</th>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPP</td>
<td>296</td>
<td>1-3</td>
<td>Topics</td>
<td>Yes ☐ No ☑</td>
<td>SUPP</td>
<td>UNIV</td>
</tr>
</tbody>
</table>

**Justification:**
The prefix change was recommended by the WGISAS group to the VPAA to be reflective of the University College designation. Formerly SUPP courses were not assigned to any academic department, but rather the Office of Academic Affairs. This course will be assigned to the University College in the future.

**Proposed by:** Steve Werman  
**Expected Implementation:** Fall 2016
# Course Modifications

## NURS 101

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>NURS</td>
</tr>
<tr>
<td>Course No.:</td>
<td>101</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>1</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Pharmacology Calculations</td>
</tr>
<tr>
<td>Prerequisites:</td>
<td></td>
</tr>
<tr>
<td>Co-requisites:</td>
<td></td>
</tr>
<tr>
<td>Proposed:</td>
<td>Nurs 106, Nurs 106L, Nurs 107, Nurs 107L</td>
</tr>
<tr>
<td>Requirement or listed choice for any program of study:</td>
<td>Yes ☑️ No ☐</td>
</tr>
<tr>
<td>Health Science   Tech Cert,   Practical Nurse</td>
<td></td>
</tr>
<tr>
<td>Justification:</td>
<td>See justification for PN Program Modification.</td>
</tr>
<tr>
<td>Topical course outline, current:</td>
<td>NA</td>
</tr>
<tr>
<td>Topical course outline, proposed:</td>
<td>NA</td>
</tr>
<tr>
<td>Student Learning Outcomes, current:</td>
<td>NA</td>
</tr>
<tr>
<td>Student Learning Outcomes, proposed:</td>
<td>NA</td>
</tr>
<tr>
<td>Essential Learning SLOs, proposed:</td>
<td>NA</td>
</tr>
<tr>
<td>Discussions with affected departments:</td>
<td>NA</td>
</tr>
<tr>
<td>Proposed by:</td>
<td>Genell Stites</td>
</tr>
<tr>
<td>Expected Implementation:</td>
<td>Fall 2016</td>
</tr>
</tbody>
</table>

## NURS 106

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>NURS</td>
</tr>
<tr>
<td>Course No.:</td>
<td>106</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>3</td>
</tr>
<tr>
<td>Contact</td>
<td>Lecture 45</td>
</tr>
<tr>
<td>Abbreviated</td>
<td>Adult Concepts I/Pharmacology</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Fundamental Medical-Surgical Concepts I</td>
</tr>
<tr>
<td>Lab</td>
<td>Lecture 75</td>
</tr>
<tr>
<td>Abbreviated</td>
<td>Adult Concepts I/Pharm</td>
</tr>
<tr>
<td>Abbreviated</td>
<td>Lecture</td>
</tr>
<tr>
<td>Lab</td>
<td></td>
</tr>
</tbody>
</table>

7 of 156
Description for catalog:
Current: Course introduces the role of the nurse in assessing and meeting the medical and surgical needs of adults across the lifespan in various health care settings. Knowledge from foundations of nursing, the sciences, pharmacology and nutrition provide foundations for nursing care for medical/surgical clients.
Proposed:

Requirement or listed choice for any program of study:  Yes ☑ No ☐
Health Science  Tech Cert,  Practical Nurse

Justification:

See justification for the PN program modification.

Topical course outline, current:

Immune System Function
Nursing Care of Patients with Infections
Cardiovascular System Function, Assessment and Therapeutic Measures
Nursing Care of Patients with Hypertension
Nursing Care of Patients in Shock
Developmental Considerations in the Nursing Care of Adult
Nursing Care of Patients in Pain
Nursing Care of Older Adult Patients
Nursing Care of Patients with Fluid, Electrolyte, and Acid Base Imbalances
Nursing Care of Patients with Heart Failure
Respiratory System Function, Assessment, and Therapeutic Measures
Nursing Care of Patients with Upper Respiratory Disorders
Nursing Care of Patients with Lower Respiratory Tract Disorders
Urinary System Function, Assessment, and Therapeutic Measures
Nursing Care of Patients with Disorders of the Urinary System
Nursing Care of Patients with Upper Intestinal Disorders
Nursing Care of Patients with Lower Gastrointestinal Disorders
Integumentary System Function, Assessment and Therapeutic Measures
Nursing Care of Patients with Skin Disorders
Nursing Care of Patients Having Surgery
Musculoskeletal System Function and Assessment
Gastrointestinal, Hepatobiliary and Pancreatic Systems Functions, Assessment and Therapeutic Measures
Nursing Care of Patients with Disorders of the Endocrine Pancreas
Nursing Care of Patients with Occlusive Cardiovascular Disorders
Nursing Care of Older Adult Patients
Nursing Care of Patients with Cerebral Vascular Disorders
Nursing Care of Patients with Liver, Pancreatic, and Gallbladder Disorders
Student Learning Outcomes, current:

Complementary and Alternative

Topical course outline, proposed:

Immune System Function
Nursing Care of Patients with Infections
Cardiovascular System Function, Assessment and Therapeutic Measures
Nursing Care of Patients with Hypertension
Nursing Care of Patients in Shock
Developmental Considerations in the Nursing Care of Adult
Nursing Care of Patients in Pain
Nursing Care of Older Adult Patients
Nursing Care of Patients with Fluid, Electrolyte, and Acid Base Imbalances
Nursing Care of Patients with Heart Failure
Respiratory System Function, Assessment, and Therapeutic Measures
Nursing Care of Patients with Upper Respiratory Disorders
Nursing Care of Patients with Lower Respiratory Tract Disorders
Urinary System Function, Assessment, and Therapeutic Measures
Nursing Care of Patients with Disorders of the Urinary System
Nursing Care of Patients with Upper Intestinal Disorders
Nursing Care of Patients with Lower Gastrointestinal Disorders
Integumentary System Function, Assessment and Therapeutic Measures
Nursing Care of Patients with Skin Disorders
Nursing Care of Patients Having Surgery
Musculoskeletal System Function and Assessment
Gastrointestinal, Hepatobiliary and Pancreatic Systems Functions, Assessment and Therapeutic Measures
Nursing Care of Patients with Disorders of the Endocrine Pancreas
Nursing Care of Patients with Occlusive Cardiovascular Disorders
Nursing Care of Older Adult Patients
Nursing Care of Patients with Cerebral Vascular Disorders
Nursing Care of Patients with Liver, Pancreatic, and Gallbladder Disorders
Complementary and Alternative
Drug Definitions, Names, Standards, & Information Sources
Principles of Drug Action & Drug Interactions
Drug Action Across the Life Span
Drugs Affecting the Central Nervous System
Drugs Used for Diuresis
Drugs Used to Treat Hypertension
Drugs Used to Treat Heart Failure
Drugs Used for Pain Management
Drugs Used to Treat Upper Respiratory Disorders
Drugs Used to Treat Lower Respiratory Disorders
Drugs Used to Treat Disorders of the Urinary System
Drugs Used to Treat Gastroesophageal Reflux and Peptic Ulcer Disease
Drugs Used to Treat Nausea and Vomiting
Drugs Used to Treat Constipation and Diarrhea
Antimicrobial Agents
Drugs Used to Treat Diabetes Mellitus
Drugs Used to Treat Dyslipidemias
Drugs Used to Treat Angina Pectoris
Drugs Used to Treat Peripheral Vascular Diseases
Drugs Used to Treat Thromboembolic Disorders
Drugs Used to Treat Parkinson's disease
Drugs Used to Treat Seizure Disorders
Discriminate between focusing on disease versus optimal functioning when planning nursing care for adult patients across the life span.
Integrate prior and current learning concepts about diagnostics, dietetics, and pharmacology with nursing care.
Integrate critical thinking skills with the nursing process for care of the adult across the life span with health problems.
Explain in depth and breadth etiology and pathophysiology related to signs and symptoms and treatment modalities for adult patients across the life span.
Discuss principles of cultural awareness in the plan of care for patients with commonly occurring health conditions.
Compare and contrast appropriate teaching/learning strategies utilized with the adult patient.
Analyze the impact of psychosocial and cultural values and practices in caring for the adult patient across the life span.
Identify the cultural considerations of administering medications to all patients.

Student Learning Outcomes, proposed:
Discriminate between focusing on disease versus optimal functioning when planning nursing care for adult patients across the life span.
Integrate prior and current learning concepts about diagnostics, dietetics, and pharmacology with nursing care.
Integrate critical thinking skills with the nursing process for care of the adult across the life span with health problems.
Explain in depth and breadth etiology and pathophysiology related to signs and symptoms and treatment modalities for adult patients across the life span.
Discuss principles of cultural awareness in the plan of care for patients with commonly occurring health conditions.
Compare and contrast appropriate teaching/learning strategies utilized with the adult patient.
Analyze the impact of psychosocial and cultural values and practices in caring for the adult patient across the life span.
Identify the cultural considerations of administering medications to all patients.
Demonstrate knowledge of the classification of drugs and their physiologic and therapeutic effects on the body.
Relate significant patient assessments pertaining to specific drug therapy
Define and identify terminology and abbreviations associated with the administration of medications
Calculate correctly with 90% accuracy required dosages of drugs
Calculate and describe drug therapy for pediatric patients.
Practice the role of the professional nurse in the administration of medications.
Identify teaching necessary for identified patients and drugs.
Demonstrate the ability to use appropriate reference materials when seeking information about drugs that are to be administered.
Discuss legal and ethical implications involved with the administration of drugs.

Essential Learning SLOs, proposed:

NA

Discussions with affected departments:

NA

Proposed by:  Genell Stites  
Expected Implementation:  Fall 2016

NURS  106L

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:  NURS</td>
<td></td>
</tr>
<tr>
<td>Course No.:  106L</td>
<td></td>
</tr>
</tbody>
</table>
Credit Hours: 2
Course Title: Fundamental Medical-Surgical I Laboratory
Abbreviated: Fund Med Surg Concept I
Prerequisites:
  - Proposed:
Co-requisites:
  - Proposed: Nurs 101, Nurs 106, Nurs 107, Nurs 107L
Description for catalog:
  - Current: Course introduces the role of the nurse in assessing and meeting the medical and surgical needs of adults across the lifespan in various health care settings. Knowledge from foundations of nursing, the sciences, pharmacology and nutrition provide foundations for nursing care for medical/surgical clients.
  - Proposed: Application of nursing concepts, skills, critical thinking, pharmacology, assessment and medication administration in caring for a variety of clients in various health care settings.
Requirement or listed choice for any program of study: Yes ☑️ No ☐
Health Sciences Tech Cert Practical Nurse
Justification:
See justification for the PN program modification.
Topical course outline, current:
N/A
Topical course outline, proposed:
NA - No change in course outline. Already incorporated into clinical. No change from current course.
Student Learning Outcomes, current:
N/A
Student Learning Outcomes, proposed:
N/A
Essential Learning SLOs, proposed:
NA
Discussions with affected departments:
NA
Proposed by: Genell Stites
Expected Implementation: Fall 2016

NURS 107

Current Proposed
Course Prefix: NURS
Course No.: 107
Credit Hours 3
Course Title: Foundations of Nursing
Prerequisites:
Proposed:

Co-requisites:
Proposed: Nurs 101, Nurs 106, Nurs 106L, Nurs 107L

Description for catalog:
Current: Course introduces the applications of critical thinking and the nursing process to clients in a variety of community and acute care settings. Emphasis is in holistic healthcare wellness-illness continuum.
Proposed: Exploration of basic nursing concepts and skills to develop critical thinking while utilizing the nursing process.

Requirement or listed choice for any program of study: Yes ☑  No ☐

Justification:
See justification for PN program modification.

Topical course outline, current:
NA

Topical course outline, proposed:
NA

Student Learning Outcomes, current:
NA

Student Learning Outcomes, proposed:
NA

Essential Learning SLOs, proposed:
NA

Discussions with affected departments:
NA

Proposed by:  Genell Stites  Expected Implementation:  Fall 2016

NURS 107L

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>NURS</td>
</tr>
<tr>
<td>Course No.:</td>
<td>107L</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>3</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Foundations of Nursing Laboratory</td>
</tr>
<tr>
<td>Prerequisites:</td>
<td></td>
</tr>
<tr>
<td>Co-requisites:</td>
<td></td>
</tr>
<tr>
<td>Proposed:</td>
<td>Nurs 101, Nurs 106, Nurs 106L, Nurs 107</td>
</tr>
<tr>
<td>Description for catalog:</td>
<td></td>
</tr>
<tr>
<td>Current: Class introduces the applications of critical thinking and the nursing process to clients in a variety of community and acute care settings. Emphasis is in holistic healthcare wellness-illness continuum.</td>
<td></td>
</tr>
<tr>
<td>Proposed: Application of basic nursing and IV certification skills through training, practice, and checkoffs of essential skills needed for safe practice.</td>
<td></td>
</tr>
</tbody>
</table>
Justification:
See Justification for PN program modification.

Topical course outline, current:
Medical Terminology
Medical Asepsis & Infection Control
Safety
Personal Care
Vital Signs
Nursing Process and Decision Making
Documentation
Physical Assessment
Pain Management and Restorative Sleep
Nutrition
Fluid, Electrolytes, and Acid Base Imbalances
Administering Oral, Topical, and Mucosal Medications
Subcutaneous and Intramuscular Injections
Musculoskeletal Care
Applying Heat and Cold
Respiratory Care
Urinary and Bowel Elimination and Care
Wound Care
Moving and Positioning Patients
Care of Surgical Patient
Surgical Asepsis
Communicating and Understanding
Patient Teaching
Admission, Transfer, and Discharge
Phlebotomy and Blood Specimens
Peripheral Intravenous Therapy
Researching and Preparing Medications
Care of the Elderly
Diagnostic Tests
Growth and Development throughout the Life Span
Promoting Health and Wellness
Health Care Delivery and Economics
Nursing Ethics and Law
Complementary and Alternative Medicine
Loss, Grief and Dying
Ethics, Cultural and Spiritual Aspects of Care

Topical course outline, proposed:
Legal implications
Anatomy and physiology of upper extremity access sites
Commonly used IV fluids
Fluids and electrolytes
Psychological and physical preparation of patient
Complications of IV Therapy
Regulating and monitoring fluids
Equipment and techniques of IV therapy
Replacing and Monitoring IV fluids
Care of Venous Access Device
Termination of peripheral short catheters
Differentiate common variations in assessment data for pediatric and geriatric patients.
Examine the concept of holistic health care and its relationship to the wellness-illness continuum.
Identify physical, psychological, life-style and socio-cultural considerations that influence alterations in health and physical assessment data.
Identify care that meets common health problems and health maintenance and disease prevention.
Develop knowledge base, and demonstrate foundational care skills required to provide care in various health care environments.
Analyze assessment and interviewing techniques to gather information.
Distinguish therapeutic communications from other forms of communication
Utilize interview and assessment techniques to collect and organize patient information and build a data base on which to build nursing care decisions.

Student Learning Outcomes, current:
Venous Blood Sampling
Pharmacology and Administration of Antibiotics
Medical Terminology
Medical Asepsis & Infection Control
Safety
Personal Care
Vital Signs
Nursing Process and Decision Making
Documentation
Physical Assessment
Pain Management and Restorative Sleep
Nutrition
Fluid, Electrolytes, and Acid Base Imbalances
Administering Oral, Topical, and Mucosal Medications
Subcutaneous and Intramuscular Injections
Musculoskeletal Care
Applying Heat and Cold
Respiratory Care
Urinary and Bowel Elimination and Care
Wound Care
Moving and Positioning Patients
Care of Surgical Patient
Surgical Asepsis
Communicating and Understanding
Patient Teaching
Admission, Transfer, and Discharge
Phlebotomy and Blood Specimens
Peripheral Intravenous Therapy
Researching and Preparing Medications
Care of the Elderly
Diagnostic Tests
Growth and Development throughout the Life Span
Health Care Delivery and Economics
Nursing Ethics and Law
Complementary and Alternative Medicine
Loss, Grief and Dying
Ethics, Cultural and Spiritual Aspects of Care
IV therapy
IV skills
Discuss bioethical dilemmas including beginning/end of life and quality of life issues.
Utilize interview and assessment techniques to collect and organize patient information and build a data base on which to build nursing care decisions.

**Student Learning Outcomes, proposed:**

Discuss the role of the LPN in IV therapy
Describe normal physiology of fluid and electrolytes, including adult normal values.
Utilize psychological principles in preparing a patient for IV therapy and/or venous blood sampling.
Describe the local and systemic complications of IV therapy.
Utilize the nursing process to safely administer IV therapy to adult patients in a structured setting.
Describe infection control measures utilized in the performance of IV therapy and venous blood sampling.
Identify the types of peripheral and central venous access devices.
Demonstrate beginning skills in the initiation of IV therapy and venous blood sampling through peripheral and venous access devices.
Calculate the correct rate of flow of an IV solution.
Initiate a minimum of three successful peripheral venipunctures with supervision.
Demonstrate appropriate nursing care, interventions, reporting and documentation related to intravenous therapy/venous blood sampling.
Differentiate common variations in assessment data for pediatric and geriatric patients.
Examine the concept of holistic health care and its relationship to the wellness-illness continuum.
Identify physical, psychological, life-style and socio-cultural considerations that influence alterations in health and physical assessment data.
Identify care that meets common health problems and health maintenance and disease prevention
Develop knowledge base, and demonstrate foundational care skills required to provide care in various health care environments.
Distinguish therapeutic communications from other forms of communication
Utilize interview and assessment techniques to collect and organize patient information and build a data base on which to build nursing care decisions.
Discuss bioethical dilemmas including beginning/end of life and quality of life issues.
Utilize interview and assessment techniques to collect and organize patient information and build a data base on which to build nursing care decisions.

**Essential Learning SLOs, proposed:**

NA

**Discussions with affected departments:**

NA

Proposed by: Genell Stites  
Expected Implementation: Fall 2016

**NURS 117**

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course Prefix:</strong></td>
<td>NURS</td>
</tr>
<tr>
<td><strong>Course No.:</strong></td>
<td>117</td>
</tr>
<tr>
<td><strong>Credit Hours</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Course Title:</strong></td>
<td>Nursing Care of the Childbearing Family</td>
</tr>
<tr>
<td><strong>Abbreviated:</strong></td>
<td>OB/Peds</td>
</tr>
<tr>
<td><strong>Contact</strong></td>
<td>Lecture 30</td>
</tr>
<tr>
<td></td>
<td>Lab</td>
</tr>
<tr>
<td></td>
<td>Field</td>
</tr>
<tr>
<td></td>
<td>Studio</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td><strong>Engage Min.:</strong></td>
<td>1500</td>
</tr>
</tbody>
</table>
Fundamental course in the nursing care of the childbearing family. Focus on normal pregnancy, physiologic and psychological changes experienced, and care of the normal newborn. Includes the individual needs of the child from infancy through adolescence focusing on developmental stages, as well as childhood diseases and illness within each stage.

**Prerequisites:**
- Current: Nurs172, Nurs 172L, Nurs 109, Nurs 109L, Nurs 118L, Nurs 101, Nurs 112
- Proposed: Nurs 101, Nurs 106, Nurs 106L, Nurs 107, Nurs 107L

**Co-requisites:**
- Current: Nurs 172 L, NURS 117, NURS 117L, NURS 156 NURS 118, NURS 118L, NURS 109, NURS 109L
- Proposed: NURS 172L, NURS 172, NURS 117L, NURS 156

**Description for catalog:**
- Current: Fundamentals course in the nursing care of the childbearing family. Focus on normal pregnancy, physiologic and psychological changes experienced, and care of the normal newborn.
- Proposed: Exploration of fundamental content in the nursing care of the childbearing family, which focuses on pregnancy, physiologic and psychological changes experienced, and care of the normal newborn. Includes the individual needs of the child from infancy through adolescence focusing on developmental stages, as well as childhood diseases and illness within each stage.

**Requirement or listed choice for any program of study:** Yes ☑️ No ☐

Health Sciences  Technical Certificate,  Practical Nurse

**Justification:**
See justification for the PN program modification.

**Topical course outline, current:**
- Prenatal Care and Adoptions to Pregnancy
- Prenatal Care and Adoptions to Pregnancy cont.
- Preterm and Postterm Newborns
- The term newborn
- Fetal Development
- Nursing Care of Women with Complications during pregnancy
- Nursing Care of mother and infant during labor
- Nursing Management of pain during labor and birth
- Nursing Care of Women with complications during labor and birth
- Nursing Care of Women with complications during labor and birth cont.
- The family after birth

**Topical course outline, proposed:**
- Prenatal Care and Adoptions to Pregnancy
- Prenatal Care and Adoptions to Pregnancy cont.
- Preterm and Postterm Newborns
- The term newborn
- Fetal Development
- Nursing Care of Women with Complications during pregnancy
- Nursing Care of mother and infant during labor
- Nursing Management of pain during labor and birth
- Nursing Care of Women with complications during labor and birth
- Nursing Care of Women with complications during labor and birth cont.
- The family after birth
- Infant/Toddler
- Preschool child/School aged child
- Adolescent
- Child's experience of hospitalization
- Child with a sensory or Neurological Condition
- The child with a Musculoskeletal Condition
Incorporate the legal and ethical implications of maternal-newborn nursing in daily care.
Understand the impact of psychosocial and cultural values and practices in caring for healthy childbearing family.
Integrate knowledge of diagnostics, nutrition, and pharmacology into a plan of care for the childbearing family.
Integrate critical thinking skills with the nursing process for care of the stable childbearing patient.
Use critical thinking skills to explain nursing process for care of the newborn.
Demonstrate appropriate teaching-learning strategies when providing information to the childbearing family.
Accurately report alterations in health affecting the childbearing family.
Discuss health maintenance and promotion from conception through postpartum and the neonatal period with the childbearing family.

Student Learning Outcomes, proposed:

Incorporate the legal and ethical implications of maternal-newborn nursing in daily care.
Understand the impact of psychosocial and cultural values and practices in caring for healthy childbearing family.
Integrate knowledge of diagnostics, nutrition, and pharmacology into a plan of care for the childbearing family.
Integrate critical thinking skills with the nursing process for care of the stable childbearing patient.
Use critical thinking skills to explain nursing process for care of the newborn.
Demonstrate appropriate teaching-learning strategies when providing information to the childbearing family.
Accurately report alterations in health affecting the childbearing family.
Discuss health maintenance and promotion from conception through postpartum and the neonatal period with the childbearing family.

Student Learning Outcomes, proposed:

Incorporate the legal and ethical implications of maternal-newborn nursing in daily care.
Understand the impact of psychosocial and cultural values and practices in caring for healthy childbearing family.
Integrate knowledge of diagnostics, nutrition, and pharmacology into a plan of care for the childbearing family.
Integrate critical thinking skills with the nursing process for care of the stable childbearing patient.
Use critical thinking skills to explain nursing process for care of the newborn.
Demonstrate appropriate teaching-learning strategies when providing information to the childbearing family.
Accurately report alterations in health affecting the childbearing family.
Discuss health maintenance and promotion from conception through postpartum and the neonatal period with the childbearing family.

Student Learning Outcomes, proposed:

Incorporate the legal and ethical implications of maternal-newborn nursing in daily care.
Understand the impact of psychosocial and cultural values and practices in caring for healthy childbearing family.
Integrate knowledge of diagnostics, nutrition, and pharmacology into a plan of care for the childbearing family.
Integrate critical thinking skills with the nursing process for care of the stable childbearing patient.
Use critical thinking skills to explain nursing process for care of the newborn.
Demonstrate appropriate teaching-learning strategies when providing information to the childbearing family.
Accurately report alterations in health affecting the childbearing family.
Discuss health maintenance and promotion from conception through postpartum and the neonatal period with the childbearing family.
Discussions with affected departments:
NA

Proposed by: Genell Stites

Expected Implementation: Fall 2016

NURS 117L

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course Prefix:</strong></td>
<td>NURS</td>
</tr>
<tr>
<td><strong>Course No.:</strong></td>
<td>117L</td>
</tr>
<tr>
<td><strong>Credit Hours</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Course Title:</strong></td>
<td>Nursing Care of the Childbearing Family Laboratory</td>
</tr>
<tr>
<td><strong>Abbreviated:</strong></td>
<td>OB/Peds Lab</td>
</tr>
<tr>
<td><strong>Engage Min.:</strong></td>
<td>750</td>
</tr>
<tr>
<td><strong>Prep Min.:</strong></td>
<td>375</td>
</tr>
<tr>
<td><strong>Prerequisites:</strong></td>
<td>NURS 112, NURS 101, NURS 105L, NURS 107, NURS 107L, NURS 106, NURS 106L</td>
</tr>
<tr>
<td><strong>Proposed:</strong></td>
<td>NURS 107, NURS 107L, NURS 106, NURS 106L, NURS 101</td>
</tr>
<tr>
<td><strong>Co-requisites:</strong></td>
<td>NURS 172, NURS 172 L, NURS 117, NURS 117L, NURS 156, NURS 118, NURS 118L, NURS 109, NURS 109L</td>
</tr>
<tr>
<td><strong>Proposed:</strong></td>
<td>NURS 172L, NURS 172, NURS 117, NURS 156</td>
</tr>
<tr>
<td><strong>Description for catalog:</strong></td>
<td>Fundamental course in the nursing care of the childbearing family. Focus on normal pregnancy, physiologic and psychological changes experienced, and care of the normal newborn</td>
</tr>
<tr>
<td><strong>Proposed:</strong></td>
<td>Application of concepts related to pregnancy, newborns, and children from infancy to adolescence utilizing critical thinking, nursing process, and assessment in caring for this population within the various health care settings</td>
</tr>
<tr>
<td><strong>Requirement or listed choice for any program of study:</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Justification:</strong></td>
<td>See justification for the PN program modification.</td>
</tr>
</tbody>
</table>

Topical course outline, current:

NA

Topical course outline, proposed:

NA

No change in course outline. This is a clinical that has no change from current course.

Student Learning Outcomes, current:

NA

Student Learning Outcomes, proposed:

NA

Essential Learning SLOs, proposed:

NA
Discussions with affected departments: 
NA

Proposed by: Genell Stites

Expected Implementation: Fall 2016

NURS 156

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix: NURS</td>
<td>NURS</td>
</tr>
<tr>
<td>Course No.: 156</td>
<td></td>
</tr>
<tr>
<td>Credit Hours: 1</td>
<td></td>
</tr>
<tr>
<td>Course Title: Socialization into Practical Nursing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proposed: NURS 172, NURS 172L, NURS 117, NURS 117L</td>
</tr>
<tr>
<td>Description for catalog:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Current:</td>
</tr>
<tr>
<td></td>
<td>Proposed:</td>
</tr>
<tr>
<td>Requirement or listed choice for any program of study:</td>
<td>Yes</td>
</tr>
<tr>
<td>Health Science</td>
<td>Tech Cert</td>
</tr>
<tr>
<td>Justification:</td>
<td>See justification for the PN Program modification.</td>
</tr>
<tr>
<td>Topical course outline, current:</td>
<td>NA</td>
</tr>
<tr>
<td>Topical course outline, proposed:</td>
<td>NA</td>
</tr>
<tr>
<td>Student Learning Outcomes, current:</td>
<td>NA</td>
</tr>
<tr>
<td>Student Learning Outcomes, proposed:</td>
<td>NA</td>
</tr>
<tr>
<td>Essential Learning SLOs, proposed:</td>
<td>NA</td>
</tr>
<tr>
<td>Discussions with affected departments:</td>
<td>NA</td>
</tr>
</tbody>
</table>

Proposed by: Genell Stites

Expected Implementation: Fall 2016

NURS 172

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix: NURS</td>
<td>NURS</td>
</tr>
<tr>
<td>Course No.: 172</td>
<td></td>
</tr>
</tbody>
</table>
Credit Hours: 3
Course Title: Fundamental Medical-Surgical Concepts II
Contact:
- Lecture: 45
- Lab
- Field
- Studio
- Other
Engage Min.: 2250
Prep Min.: 4500
Prerequisites:
- Proposed: Nurs101, Nurs106, Nurs106L, Nurs107, Nurs107L,
Co-requisites:
- Current: Nurs172 L, NURS117, NURS117L, NURS156 NURS118, NURS118L, NURS109, NURS109L
- Proposed: NURS172L, NURS117, NURS117L, NURS156,

Description for catalog:
Course offers the clinical practicum to apply the related nursing theory in medical surgical nursing using the nursing process to assist clients with more complex health care needs.

Proposed:
Exploration of concepts of medical surgical clients related to deviations from health and wellness utilizing critical thinking within the nursing process. Incorporates assessment and teaching of clients around the health care continuum.

Requirement or listed choice for any program of study: Yes ☑ No ☐

Topical course outline, current:
The Respiratory System
The Surgical Patient and Musculoskeletal System
Acute Cardiac Disorders
Understanding the Neurological System
Endocrine Disorders and Emergent Care
Anxiety disorders
History of mental health
Communication
Ethics and Law in mental health
sociocultural influences on mental health
Coping mechanisms
Threats to mental health
Special populations

Justification:
See justification for the PN program modification.

Topical course outline, proposed:
The Respiratory System
The Surgical Patient and Musculoskeletal System
Student Learning Outcomes, current:

Differentiate between focusing on disease versus optimal functioning when planning nursing care for adult patients across the life span.
Integrate prior and current learning concepts about diagnostics, dietetics, and pharmacology with nursing care.
Integrate, in collaboration with the RN, critical thinking skills with the nursing process for care of the adult across the life span with health problems.
Apply critical thinking when assess etiology and pathophysiology related to signs and symptoms and treatment modalities for adult patients across the life span.
Discuss principles of cultural competency to the nursing care of individuals across the life span.
Discuss cultural issues that influence family dynamics throughout the life span.
Discuss principles of cultural competency related to the nursing care of individuals with psychiatric disorders.
Discuss cultural issues that influence family dynamics with psychiatric disorders.
Discuss diagnostic classifications in treatment planning.
Apply nursing process theory to clients with psychiatric disorders.
Examine the scope and significance of issues and trends impacting psychiatric health care.
Explain the impact of legal, ethical, and cultural issues in the delivery of psychiatric care.
Discuss therapeutic communication techniques and promote therapeutic relationships.
Discuss documentation and communication appropriately with multidisciplinary teams.
Participate in the evaluation of outcomes in implementing change.
Apply principles of cultural competency to the nursing care of individuals with psychiatric disorders.
Formulate teaching plans based upon outcomes with consideration given to biological, psychological, spiritual, cultural, developmental, environmental and economic factors.
Use established guidelines in prioritizing and organizing nursing care.
Promote ethical, legal and professional awareness and responsibility in others.

Student Learning Outcomes, proposed:

Differentiate between focusing on disease versus optimal functioning when planning nursing care for adult patients across the life span.
Integrate prior and current learning concepts about diagnostics, dietetics, and pharmacology with nursing care.
Integrate, in collaboration with the RN, critical thinking skills with the nursing process for care of the adult across the life span with health problems.
Apply critical thinking when assess etiology and pathophysiology related to signs and symptoms and treatment modalities for adult patients across the life span.
Discuss principles of cultural competency to the nursing care of individuals across the life span.
Discuss cultural issues that influence family dynamics throughout the life span.
Compare and contrast appropriate teaching/learning strategies utilized with the adult patient.
Analyze the impact of psychosocial and cultural values and practices in caring for the adult patient across the life span.
Discuss principles of cultural competency related to the nursing care of individuals with psychiatric disorders.
Discuss cultural issues that influence family dynamics with psychiatric disorders.
Discuss diagnostic classifications in treatment planning.
Apply nursing process theory to clients with psychiatric disorders.
Examine the scope and significance of issues and trends impacting psychiatric health care.
Explain the impact of legal, ethical, and cultural issues in the delivery of psychiatric care.
Discuss therapeutic communication techniques and promote therapeutic relationships.
Discuss documentation and communication appropriately with multidisciplinary teams.
Participate in the evaluation of outcomes in implementing change.
Apply principles of cultural competency to the nursing care of individuals with psychiatric disorders.
Formulate teaching plans based upon outcomes with consideration given to biological, psychological, spiritual, cultural, developmental, environmental and economic factors.
Use established guidelines in prioritizing and organizing nursing care.
Promote ethical, legal and professional awareness and responsibility in others.
problems. Explore the role of the practical nurse and members of the health team caring for clients with psychiatric disorders. Apply critical thinking skills related to concepts of psychiatric health care. Discuss principles of cultural competency related to the nursing care of individuals with psychiatric disorders. Apply principles of cultural competency to the nursing care of individuals with psychiatric disorders.

**Essential Learning SLOs, proposed:**

NA

**Discussions with affected departments:**

NA

**Proposed by:** Genell Stites **Expected Implementation:** Fall 2016

| NURS 172L |
|---|---|
| **Current** | **Proposed** |
| Course Prefix: | NURS |
| Course No.: | 172L |
| Credit Hours | 4 |
| Course Title: | Fundamental Medical-Surgical Concepts II Laboratory |
| Abbreviated | |
| Prerequisites: | Adult Concepts II /Mental Health Laboratory |
| Current: | |
| NURS 101, NURS 112, NURS 106, NURS 106L, NURS 107, NURS 107L, NURS 105L |
| Proposed: | |
| NURS 101, NURS 106, NURS 106L, NURS 107, NURS 107L |
| Co-requisites: | |
| Current: | NURS 172, NURS 117, NURS 117L, NURS 118, NURS 118L, NURS 156, NURS 109, NURS 109L |
| Proposed: | NURS 172, NURS 117, NURS 117L, NURS 156 |
| Description for catalog: | |
| Current: | Course offers the clinical practicum to apply the related nursing theory in medical surgical nursing using the nursing process to assist clients with more complex health care needs |
| Proposed: | Application of clinical practicum to apply nursing theory in medical surgical nursing using the nursing process to assist clients with more complex health care needs. Incorporates fundamental knowledge of mental health and illness from a holistic perspective while providing experiences which focus on mental health |
| Requirement or listed choice for any program of study: | Yes ☑ No ☐ |
| Health Science Tech Cert, Practical Nurse |
| **Justification:** | |
| See justification for the PN program modification. |
| **Topical course outline, proposed:** | |
| Demonstrate skills within the clinical environment |
| Create a nursing care plan with the RN in the clinical setting |
| Utilize critical thinking in taking care of diverse clients with mental health needs |
| Demonstrate teaching with clients in both medical surgical nursing and mental health. |
| **Student Learning Outcomes, current:** |
Utilize technology and resources to analyze patient information.
In collaboration with the RN, assume responsibility for the care of adult patient/client in settings across the health care continuum.
Collaborate with the multidisciplinary team to promote patient/client optimal wellness.
In collaboration with the RN, utilize the nursing process to analyze patient/client needs by developing nursing care maps.
Demonstrate ethical, legal and professional behavior.
Demonstrate cultural competency of individuals across the life span.
Demonstrate communication techniques to establish and guide therapeutic relationships.
In collaboration with the RN, creates a teaching plan for patient/client and family.
In collaboration with the RN, evaluates discharge needs of the patient/client.

Student Learning Outcomes, proposed:
Demonstrate skills within the clinical environment
Create a nursing care plan with the RN in the clinical setting
Utilize critical thinking in taking care of diverse clients with mental health needs
Demonstrate teaching with clients in both medical surgical nursing and mental health
Demonstrate theory/principles of communication and nurse patient relationship to psychiatric nursing care.
Differentiate the modalities utilized in treating psychiatric disorder
Integrate, in collaboration with the preceptor nurse, critical thinking skills with the nursing process for care of the psychiatric patient with health problems.
Explore the role of the practical nurse and members of the health team caring for clients with psychiatric disorders.
Apply critical thinking skills related to concepts of psychiatric health care.
Demonstrate principles of cultural competency related to the nursing care of individuals with psychiatric disorders.
Identify cultural issues that influence family dynamics with psychiatric disorders.
Utilize diagnostic classifications in collaboration with the preceptor nurse, in treatment planning.
Apply nursing process theory to the care of clients with psychiatric disorders.
Identify the scope and significance of issues and trends impacting psychiatric health care.
Explain the impact of legal, ethical, and cultural issues in the delivery of psychiatric care.

Essential Learning SLOs, proposed:

NA

Discussions with affected departments:

NA

Proposed by: Genell Stites

Expected Implementation: Fall 2016

Course Deletions

NURS 105L

Credit Hours 1

Type of Change Deletion

Course Title PN IV Certification

Essential Learning Course: Yes [ ] No [ ]

Requirement or listed choice for any program of study: Yes [X] No [ ]

Prerequisite for other course(s): Yes [X] No [ ]

Nurs 172, Nurs 172L, Nurs 117, Nurs 117L, Nurs 118, Nurs 118L, Nurs 156

Co-requisite for other course(s): Yes [X] No [ ]

Nurs 101, Nurs 106, Nurs 106L, Nurs 107, Nurs 107L, Nurs 112

Justification:
This will be included in the "Adult concepts 1 class.

Proposed by: Genell Stites  
Expected Implementation: Fall 2016
### NURS 109

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>2</th>
</tr>
</thead>
</table>

**Type of Change:** Deletion  
**Course Title:** Introduction to Mental Health Nursing  
**Essential Learning Course:** Yes ☑ No ☐  
**Requirement or listed choice for any program of study:** Yes ☑ No ☐  
**Prerequisite for other course(s):** Yes ☑ No ☐  
**Co-requisite for other course(s):** Yes ☑ No ☐  

NURS 118L, NURS 109L, NURS 172, NURS 172L, NURS 117, NURS 117L, NURS 118

**Justification:**  
This will be included as one class for Obstetrics and Pediatrics.

**Proposed by:** Genell Stites  
**Expected Implementation:** Fall 2016
<table>
<thead>
<tr>
<th>Type of Change</th>
<th>Deletion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title:</td>
<td>Introduction to Mental Health Nursing Laboratory</td>
</tr>
<tr>
<td>Essential Learning Course:</td>
<td>Yes ☑ No ☐</td>
</tr>
<tr>
<td>Requirement or listed choice for any program of study:</td>
<td>Yes ☑ No ☐</td>
</tr>
<tr>
<td>Prerequisite for other course(s):</td>
<td>Yes ☑ No ☐</td>
</tr>
<tr>
<td>Co-requisite for other course(s):</td>
<td>Yes ☑ No ☐</td>
</tr>
</tbody>
</table>

NURS 118L, NURS 109, NURS 172, NURS 172L, NURS 117, NURS 117L, NURS 118

**Justification:**
This will be included as one class for Obstetrics and Pediatrics.

**Proposed by:** Genell Stites  
**Expected Implementation:** Fall 2016
NURS 112

Credit Hours: 2

Type of Change: Deletion

Course Title: Basic Concepts of Pharmacology

Essential Learning Course: Yes ☑ No ☐

Requirement or listed choice for any program of study: Yes ☑ No ☐

Prerequisite for other course(s): Yes ☑ No ☐

Nurs 172, Nurs 172L, Nurs 117, Nurs 117L, Nurs 118, Nurs 118L, Nurs 156

Co-requisite for other course(s): Yes ☑ No ☐

Nurs 101, Nurs 106, Nurs 106L, Nurs 107, Nurs 107L, Nurs 105L

Justification:
This will be included in the "Adult concepts 1 class.

Proposed by: Genell Stites

Expected Implementation: Fall 2016
NURS 118

Credit Hours  2

Type of Change  Deletion
Course Title:  Nursing Care of Children

Essential Learning Course:  Yes  ☑  No  ☐

Requirement or listed choice for any program of study:  Yes  ☑  No  ☐

Prerequisite for other course(s):  Yes  ☑  No  ☐
Co-requisite for other course(s):  Yes  ☑  No  ☐

NURS 109, NURS 109L, NURS 172, NURS 172L, NURS 117, NURS 117L, NURS 118L

Justification:
This will be included as one class for Obstetrics and Pediatrics.

Proposed by:  Genell Stites  Expected Implementation:  Fall 2016
**NURS 118**  
Credit Hours 1

Type of Change: Deletion  
Course Title: Nursing Care of Children Laboratory  
Essential Learning Course: Yes ☑ No ☐  
Requirement or listed choice for any program of study: Yes ☑ No ☐  
Prerequisite for other course(s): Yes ☑ No ☐  
Co-requisite for other course(s): Yes ☑ No ☐  

**Justification:**  
This will be included as one class for Obstetrics and Pediatrics.

**Proposed by:** Genell Stites  
Expected Implementation: Fall 2016

---

**Program Modification**

**Practical Nursing: 1612**

Degree Type: Tech Cert  
Modified Program Name: PN  
Revision to program sheet: Yes ☑ No ☐

**Description of modification:**  
Add 4 credits in the fall and 7 credits in the spring. Add math as the students have a math calculation class. Combine some courses to move towards a concept based curriculum.

**Justification:**  
The PN program is looking at increasing the number of pre-requisites needed to apply to the program. By increasing the number of credits in the pre-requisites students are able to be full-time. Previously the credits required in the first semester were 10 credits and the second semester were 7 credits. The proposed change would make both semesters 14 credits. This change will also help with the sequencing of courses. Once accepted to the PN program they must take pharmacology in the first semester and often struggle with the math section because a prerequisite math class is not required. Math 113 would help students be prepared for this course. Adding the Pathophysiology course to the pre-requisites would help students in the Adult Health 1 & 2 class with understanding the concepts of the diseases. Faculty are often trying to teach the pathophysiology along with the course because this was not previously taught. The new prerequisites have always been required, but for the next step in the career ladder that the majority of the students finish eventually.

The other changes in the program are working toward a concept based nursing curriculum. We will be combining courses to allow students to have a greater understanding of one concept at a time and how all age groups and diseases are affected by that area/concept. This will increase their understanding of how to care for all patients with a compromised area and understand the patient holistically. It was noted when doing a curriculum review that many concepts were being taught in several courses and by combining these courses students would not be repeating the same concepts in a different course.

Revision to SLOs: Yes ☑ No ☐  
Other changes: Yes ☑ No ☐

The admission requirements will increase by 11 credits.

**Discussions with affected departments:**

NA  
Proposed by: Genell Stites  
Director of Teacher Education Signature:
About This Degree . . .

This program is designed for students interested in becoming a Licensed Practical Nurse as an entry into the nursing career ladder program. Completion of the Practical Nurse Certificate allows students to progress onto the second year of the Associate of Applied Science in Nursing Degree or apply for advanced placement in the Bachelor of Science in Nursing Degree. The Practical Nursing program prepares the student to be a direct care giver in hospitals, long-term facilities, and ambulatory care-clinic settings.

The potential student must demonstrate college-level proficiency in reading and writing in order to be admitted to this program. This program has selective admission requirements and requirements may change from year to year. It is the student's responsibility to obtain the current admission requirements.

For more information on what you can do with this major, go to http://www.coloradomesa.edu/career/whatmajor.html.

All CMU certificate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Function as a competent practical nurse within a legal and ethical framework to provide holistic care to patients from diverse backgrounds. (Applied Learning)
2. Promote a therapeutic environment supporting communication across the lifespan for vulnerable and diverse populations. (Communication Fluency)
3. Demonstrate clinical decision-making and critical thinking skills to provide effective nursing care for individuals throughout the development stages across the lifespan. (Specialized Knowledge, Applied Learning)
4. In collaborative manner, organize and incorporate assessment data to plan/revise patient care based on established nursing diagnoses, assessments, and evaluate data. (Critical Thinking)
5. Utilize knowledge of the nursing process, patient needs, and the role of the nurse when providing safe, effective, and individualize patient care, which respects values, culture, and expressed needs. (Specialized Knowledge)
6. Implement the nursing process, utilizing critical thinking by collecting patient data, identifying patient needs, reporting findings, and providing input into the plan of care. (Applied Learning)
Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration. See the “Undergraduate Graduation Requirements” in the catalog for additional graduation information.

DEGREE REQUIREMENTS:
- 2.00 cumulative GPA or higher in all CMU coursework
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- 2.00 GPA or higher in all Essential Learning, prerequisite and nursing courses. Program sheets are for advising purposes only. Because a program may have requirements specific to the degree, check with your advisor for additional guidelines, including prerequisites, grade point averages, grades, exit examinations, and other expectations. It is the student’s responsibility to be aware of, and follow, all guidelines for the degree being pursued. Any exceptions or substitutions must be approved by the faculty advisor and/or Department Head.
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student’s responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student’s faculty advisor and Department Head.

**ESSENTIAL LEARNING REQUIREMENTS** (9 Semester Hours)
See the current catalog for a list of courses that fulfill the requirements below. If a course is on the Essential Learning list of options and a requirement for your major, you must use it to fulfill the major requirement and make a different selection within the Essential Learning requirement.

<table>
<thead>
<tr>
<th>Course No</th>
<th>Title</th>
<th>Sem hrs</th>
<th>Grade Term/Tms</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 111</td>
<td>English Composition</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENGL 112*</td>
<td>English Composition</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Communication** (6 semester hours, must receive a grade of “C” or better and must be completed or in the process of completion by March 1 application deadline. “Late start” or “second module” classes beginning after March 1 deadline do not count toward Essential Learning classes.)

- ENGL 111 English Composition 3
- ENGL 112* English Composition 3

**History, Humanities, Social and Behavioral Sciences, Fine Arts, Natural Sciences, Mathematics, or selected Applied Studies**

<table>
<thead>
<tr>
<th>Course O</th>
<th>Title</th>
<th>Sem hrs</th>
<th>Grade Term/Tms</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 233</td>
<td>Human Growth &amp; Development</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSYC 150</td>
<td>General Psychology</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**MATH (4 semester hours)**

- Math 113 College Algebra 4

**PREREQUISITES** (128 Semester Hours)

*Required by this program

**This course is counted with the Essential Learning courses, but is a prerequisite for the L.P.N. in nursing program.

+ Choose from HSCL 101, SPCH 101, SPCH 102

### TECHNICAL CERTIFICATE IN PRACTICAL NURSING COURSE REQUIREMENTS (340 Semester Hours)

<table>
<thead>
<tr>
<th>Course No</th>
<th>Title</th>
<th>Sem hrs</th>
<th>Grade Term/Tms</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 209</td>
<td>Human Anat &amp; Physiology I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BIOL 209L</td>
<td>Human Anat &amp; Physiology I Lab</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>BIOL 210</td>
<td>Human Anat &amp; Physiology II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BIOL 210L</td>
<td>Human Anat &amp; Physiology II Lab</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>BIOL 241</td>
<td>Pathophysiology</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

**NURS**

<table>
<thead>
<tr>
<th>Course No</th>
<th>Title</th>
<th>Sem hrs</th>
<th>Grade Term/Tms</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 101</td>
<td>Pharmacology Calculations</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NURS 1064</td>
<td>PN IV Certification</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>NURS 05L</td>
<td>Fund Med Surg Adult Concepts I</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>NURS 106L</td>
<td>Adult Fund Med Surg Concepts I Lab</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NURS 406L</td>
<td>Foundations of Nursing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>NURS 107</td>
<td>Foundations of Nursing Lab</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>NURS 107L</td>
<td>Introduction to Mental Health</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>NURS 109</td>
<td>Introduction to Mental Health</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>NURS 109L</td>
<td>Lab</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NURS 112</td>
<td>Nursing Care of Childbearing Family</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>NURS 117</td>
<td>Obstetrics/Pediatrics</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>NURS 156</td>
<td>Family Obstetrics/Pediatrics</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>NURS 448</td>
<td>Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>NURS 118L</td>
<td>Nursing Care of Children</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NURS 146</td>
<td>Nursing Care of Children Lab</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>NURS 172</td>
<td>Socialization into Practical Nurs</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

190= Phy Pharmacology Calculations

SUGGESTED COURSE SEQUENCING FOR THE PRACTICAL NURSING TECHNICAL CERTIFICATE

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student’s responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

### FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 111 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 209* Human Anatomy and Physiology I</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 209L* Human Anatomy and Physiology I Lab</td>
<td>1</td>
</tr>
<tr>
<td>PSYC 233** Human Growth &amp; Development</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 150 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Math 113</td>
<td>4</td>
</tr>
<tr>
<td>***140</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 112 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 210* Human Anatomy and Physiology II</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 210L* Human Anatomy and Physiology II Lab</td>
<td>1</td>
</tr>
<tr>
<td>PSYC 150 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 241 Pathophysiology</td>
<td>4</td>
</tr>
<tr>
<td>***147</td>
<td></td>
</tr>
</tbody>
</table>

*BIOL 209/209L and BIOL 210/210L must have been completed within five years prior to applying to the nursing program.

**This course is counted with the Essential Learning courses, but is a prerequisite for the Licensed Practical Nursing program.

***Students desiring to progress onto through the nursing career ladder LPN - Bachelor of Science Associate of Applied Science or Bachelor of Science in Nursing should check with their advisor to develop a full time schedule of Essential Learning and program requirements during this first year.

### SECOND YEAR

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 101 Pharmacology Calculations</td>
<td>1</td>
</tr>
<tr>
<td>NURS 105 PN IV Certification</td>
<td>1</td>
</tr>
<tr>
<td>NURS 106 Fund Med Surg - Adult Concepts</td>
<td>1</td>
</tr>
<tr>
<td>NURS 106L Fund Med Surg Adult Concepts I Lab</td>
<td>2</td>
</tr>
<tr>
<td>NURS 107 Foundations of Nursing</td>
<td>3</td>
</tr>
<tr>
<td>NURS 107L Foundations of Nursing Lab</td>
<td>3</td>
</tr>
<tr>
<td>NURS 112 Basic Concepts of Pharmacology</td>
<td>2</td>
</tr>
<tr>
<td>***14</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 109 Introduction to Mental Health</td>
<td>2</td>
</tr>
<tr>
<td>NURS 109L Introduction to Mental Health Lab</td>
<td>1</td>
</tr>
<tr>
<td>NURS 117 Obstetrics/Pediatrics Nursing Care of Childbearing Family</td>
<td>4</td>
</tr>
<tr>
<td>NURS 117L Nursing Care of Childbearing Family Obstetrics/Pediatrics Lab</td>
<td>2</td>
</tr>
<tr>
<td>NURS 118 Nursing Care of Children</td>
<td>2</td>
</tr>
<tr>
<td>NURS 118L Nursing Care of Children Lab</td>
<td>1</td>
</tr>
<tr>
<td>NURS 156 Socialization into Practical Nursing</td>
<td>1</td>
</tr>
<tr>
<td>NURS 172 Adult Fund Med Surg - Concepts II / Mental Health</td>
<td>5</td>
</tr>
<tr>
<td>NURS 172L Fund Med Surg Adult Concepts II / Mental Health Lab</td>
<td>4</td>
</tr>
<tr>
<td>***167</td>
<td></td>
</tr>
</tbody>
</table>

**POLICIES:**

1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates. You must turn in your “Intent to Graduate” form to the Registrar’s Office by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December.
3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar’s Office. (Students cannot handle the forms once the advisor signs.)
4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your “Intent to Graduate” does not automatically move to a later graduation date.
5. NOTE: During your final year, you will be required to take a capstone exit assessment/project (e.g., Major Field Achievement Test).
Department: Music

Program Additions

Minor, Jazz Studies

Degree Type:
Abbreviated Name: Jazz Studies

Proposed by: Darin Kamstra

Director of Teacher Education Signature:

Expected Implementation: Fall 2016
Course Additions

MUSA 267  Credit Hours  3

Course Title:  Jazz History and Literature

Abbreviated Title:  Jazz History and Lit.

Credit Hours  3
Lab  Field  Studio  Other

Contact hours per week:  Lecture  3  Lab  Field  Studio  Other
Type of Instructional Activity:  Lecture

Academic engagement minutes:  2250  Student preparation minutes:  4500

Intended semesters for offering this course:  Fall  ☐  J-Term  ☐  Spring  ☑  Summer  ☐

Essential Learning Course:  Yes  ☑  No  ☐
Category: Fine Arts
EL SLO: Produce effective arguments and summaries in written English Select and use appropriate information or techniques in an academic project

Prerequisites:  Yes  ☑  No  ☐
Prerequisite for other course(s):  Yes  ☑  No  ☐
Co-requisites:  Yes  ☑  No  ☐

Requirement or listed choice for any program of study:  Yes  ☑  No  ☐
Overlapping content with present courses offered on campus:  Yes  ☑  No  ☐

Additional faculty FTE required:  Yes  ☑  No  ☐
Additional equipment required:  Yes  ☑  No  ☐
Additional lab facilities required:  Yes  ☑  No  ☐

Course description for catalog:
Survey of prominent artists, innovators, and stylistic trends in jazz from its origins to the contemporary.

Justification:
The addition of this course rounds out the curriculum for the proposed Music Minor in Jazz Studies. The course will provide students in the minor with a historical perspective for their work in the jazz performance field. The course will also provide an additional Fine Arts Essential Learning option for students across campus who would like to learn more about this important American art form.

Topical course outline:
Origins
Early Jazz: New Orleans and Chicago
Big Bands and Swing
Be-bop
Latin Influences
Post Bop
Fusion
Contemporary Trends

Student Learning Outcomes:

- Explain the origins of jazz
- List the prominent artists and innovators of jazz and describe their most notable contributions
- Compare and contrast the primary stylistic trends in jazz

Discussions with affected departments:
Proposed by: Dr. Darin Kamstra

Expected Implementation: Fall 2016

Instructions to Registrar:
None
JAZZ HISTORY AND LITERATURE
PROPOSED PROJECTS FOR EVALUATING ESSENTIAL LEARNING OUTCOMES

Produce effective arguments and summaries in written English

All sections of Jazz History and Literature will require students to complete a paper comparing and contrasting two prominent jazz solo artists or ensembles.

Select and use appropriate information or techniques in an academic project

Students writing a paper comparing and contrasting two prominent jazz soloists or ensembles in the Jazz History and Literature course will select scholarly sources and recordings that illustrate their arguments. Students will also present their findings to the class in an oral presentation.
MUSL 139

Course Title: Jazz
Abbreviated Title: Jazz
Contact hours per week: Lecture Lab Field Studio Other .5 or 1
Type of Instructional Activity: Music-Private Lessons
Academic engagement minutes: 375 or 7 Student preparation minutes: 1825 or
Intended semesters for offering this course: Fall ☑ J-Term ☐ Spring ☑ Summer ☐
Essential Learning Course: Yes ☑ No ☐
Prerequisites: Yes ☑ No ☐
Prerequisite for other course(s): Yes ☑ No ☐
Co-requisites: Yes ☑ No ☐
Requirement or listed choice for any program of study: Yes ☑ No ☐
Music Minor, Music - Jazz Studies
Overlapping content with present courses offered on campus: Yes ☑ No ☐
Additional faculty FTE required: Yes ☑ No ☐
Additional equipment required: Yes ☑ No ☐
Additional lab facilities required: Yes ☑ No ☐
Course description for catalog:
NA-Applied Music Lession share a single Catalog description. See related memo from Department of Music.
Justification:
The addition of this course provides critical individual instruction for students in the proposed Music Minor in Jazz Studies. The course will provide students in the minor weekly guidance on performance of their instrument in the jazz idiom, including jazz improvisation skills that are vital to success as a jazz musician.
Topical course outline:
Jazz Style and Articulation Application of Improvisation to Selected Jazz Heads Melodic Embellishment Comping (rhythm section instruments)
Student Learning Outcomes:
Perform and embellish melodies in a jazz style Perform accompaniments in a jazz style (rhythm section instruments) Improvise over the chord progressions to selected jazz heads
Discussion with affected departments:
NA
Proposed by: Expected Implementation: Fall 2016
MUSL 239

Credit Hours 1 or 2

Course Title: Jazz

Abbreviated Title: Jazz

Contact hours per week: Lecture Lab Field Studio Other .5 or 1

Type of Instructional Activity: Music-Private Lessons

Academic engagement minutes: 375 or 7  Student preparation minutes: 1825 or

Intended semesters for offering this course: Fall ☑ J-Term ☐ Spring ☑ Summer ☐

Essential Learning Course: Yes ☑ No ☐

Prerequisites: Yes ☑ No ☐

Prerequisite for other course(s): Yes ☑ No ☐

Co-requisites: Yes ☑ No ☐

Requirement or listed choice for any program of study: Yes ☑ No ☐

Music Minor, Music - Jazz Studies

Overlapping content with present courses offered on campus: Yes ☑ No ☐

Additional faculty FTE required: Yes ☑ No ☐

Additional equipment required: Yes ☑ No ☐

Additional lab facilities required: Yes ☑ No ☐

Course description for catalog:
NA-Applied Music Lesson share a single Catalog description. See related memo from Department of Music.

Justification:
See justification for MUSL 139 course addition proposal.

Topical course outline:
Jazz Style and Articulation Application of Improvisation to Selected Jazz Heads Melodic Embellishment Comping (rhythm section instruments)

Student Learning Outcomes:
Perform and embellish melodies in a jazz style Perform accompaniments in a jazz style (rhythm section instruments) Improvise over the chord progressions to selected jazz heads

Discussions with affected departments:
NA

Proposed by: Expected Implementation: Fall 2016
MUSL 339  Credit Hours  1 or 2

Course Title:  Jazz
Abbreviated Title:  Jazz
Contact hours per week:  Lecture  Lab  Field  Studio  Other .5 or 1

Type of Instructional Activity:  Music-Private Lessons

Academic engagement minutes:  375 or 7  Student preparation minutes:  1825 or

Intended semesters for offering this course:  Fall  ☑  J-Term  ☐  Spring  ☑  Summer  ☐

Essential Learning Course:  Yes  ☐  No  ☑

Prerequisites:  Yes  ☐  No  ☑

Prerequisite for other course(s):  Yes  ☐  No  ☑

Co-requisites:  Yes  ☐  No  ☑

Requirement or listed choice for any program of study:  Yes  ☑  No  ☐

Music  Minor,  Music - Jazz Studies

Overlapping content with present courses offered on campus:  Yes  ☐  No  ☑

Additional faculty FTE required:  Yes  ☐  No  ☑

Additional equipment required:  Yes  ☐  No  ☑

Additional lab facilities required:  Yes  ☐  No  ☑

Course description for catalog:

NA-Applied Music Lesson share a single Catalog description. See related memo from Department of Music.

Justification:

See justification for MUSL 139 course addition proposal.

Topical course outline:

Jazz Style and Articulation Application of Improvisation to Selected Jazz Heads Melodic Embellishment Comping (rhythm section instruments)

Student Learning Outcomes:

Perform and embellish melodies in a jazz style Perform accompaniments in a jazz style (rhythm section instruments) Improvise over the chord progressions to selected jazz heads

Discussions with affected departments:

NA

Proposed by:  Expected Implementation:  Fall 2016
MUSL 439

Credit Hours: 1 or 2

Course Title: Jazz
Abbreviated Title: Jazz

Contact hours per week: Lecture Lab Field Studio Other .5 or 1

Type of Instructional Activity: Music-Private Lessons

Academic engagement minutes: 375 or 7
Student preparation minutes: 1825 or

Intended semesters for offering this course: Fall ☑ J-Term ☐ Spring ☑ Summer ☐

Essential Learning Course: Yes ☐ No ☑

EL SLO:
Prerequisites: Yes ☐ No ☑
Prerequisite for other course(s): Yes ☐ No ☑
Co-requisites: Yes ☐ No ☑

Requirement or listed choice for any program of study: Yes ☐ No ☐

Overlapping content with present courses offered on campus: Yes ☐ No ☑

Additional faculty FTE required: Yes ☑ No ☐
Additional equipment required: Yes ☑ No ☐
Additional lab facilities required: Yes ☑ No ☐

Course description for catalog:

NA-Applied Music Lesson share a single Catalog description. See related memo from Department of Music.

Justification:

See justification for MUSL 139 course addition proposal.

Students will only be required to take lessons through the 300 level for the proposed jazz studies minor; however, they could take more lessons as electives for their major. All existing music lessons in the catalog, as well as the proposed jazz lessons, can be repeated once for credit (students generally take 2 semesters at the 100 level, 2 semesters at the 200 level, etc.). Therefore, even though MUSL 439 is not required for the proposed minor, it should be created to maintain consistency with other lessons in the catalog and to allow for students to take lessons as an elective at the 400 level.

Topical course outline:

Jazz Style and Articulation
Application of Improvisation to Selected Jazz Heads
Melodic Embellishment
Comping (rhythm section instruments)

Student Learning Outcomes:

Perform and embellish melodies in a jazz style
Perform accompaniments in a jazz style (rhythm section instruments)
Improvise over the chord progressions to selected jazz heads

Discussions with affected departments:

NA

Instructions to Registrar:

None

Proposed by: Dr. Darin Kamstra

Expected Implementation: Fall 2016
To the Undergraduate Curriculum Committee:

The following course catalog description, as approved by the department and catalog description reviewer, will appear in the catalog as a single description for all Applied Music Lessons (MUSL) entries, beginning with the 2016-17 Catalog:

Development of individual music performance skills through weekly lessons. Available to all students and may be used as an elective choice to students concurrently enrolled in a MUSP course. Lessons may be taken twice at each level. Music majors are required to attend and perform at weekly recitals as a component of applied music lessons. An instructional fee is required.

Jeremy Hawkins, PhD, ATC
Assistant Professor
Athletic Training Program Director
Colorado Mesa University
970-248-1374

Hi Jeremy,

I received your phone call and understand that the description for all lessons (MUSL) does not appear in the catalogue. As Dr. Kamstra mentioned, this was an oversight that was discovered in the submission process for lessons in jazz improvisation.

I request and approve that the descriptions for all lessons be placed back in the catalogue. Thank you,

Dr. Calvin Hofer, Head
Department of Music
Director of Bands
Colorado Mesa University
chofer@coloradomesa.edu
Program Additions

Tech Cert, Transportation Services Technology, Automotive Service Technician Specialization

Degree Type: Technical Certificate
Abbreviated Name: Automotive Service Technician

Proposed by: Gary Looft

Director of Teacher Education Signature:

Expected Implementation: Fall 2016
NOTE: All related course changes must be submitted on separate forms.

a. Identifying information

Department: WCCC
If new department, please enter name: 

Program: Degree type: Technical Cert
Program/concentration Name: Transportation Services Technology, Automotive Service Technician

Specialization

Abbreviated program/concentration (max 30 characters): Automotive Service Technician

PROPOSED AND PREPARED BY:

Name: Gary Looft Date: 11/19/2015
Email: glooft@coloradomesa.edu Phone: 970-255-2612

Additional required information for each proposal for a program addition: (see Section IV.F of Curriculum Manual)

1. Complete items b through m on the following pages.

2. Complete the three CDHE tables at the end of this document. These tables MUST be included for all new program proposals. If any of the fields do not apply, please enter NA or other explanation.

3. Discuss the proposal with all departments affected by the program.
Enter NA or dates/outcomes of such discussions

4. Submit complete program sheet. The most up-to-date program sheet templates are available as Word documents at R:\Curriculum\Program Sheets for Curriculum Program Modifications.

5. Submit this completed form to the Library's Curriculum Committee representative and the Director of Financial Aid a week prior to the published proposal submission deadline.

6. Obtain departmental approval according to department-specific procedures.

Implementation Deadlines

Program additions and modifications approved at the September-February curriculum meetings are generally implemented the following academic year. See Section II.D of the Curriculum Manual. Exceptions are rare and granted only in extenuating circumstances. To request a different effective date, the academic department head should contact the curriculum committee chair. (Note: in the approval process only the VPAA will ultimately approve or deny the request.)

REVIEWED BY DEPARTMENT’S CURRICULUM COMMITTEE REPRESENTATIVE:
Name: Glen Hoff Date: 11/19/2015

APPROVED BY DEPARTMENT HEAD:
Name: Christine Murphy Date: 11/23/15

APPROVED BY DIRECTOR OF TEACHER EDUCATION (REQUIRED FOR TEACHING PROGRAMS)
Name: Date:
b. Demonstration of compliance with CMU requirements related to student learning outcomes (SLOs):
   1) Identify program student learning outcomes (SLOs)
   2) Identify linkage of program SLOs to institutional SLOs
   3) Illustrate relationship of SLOs to proposed curriculum using curriculum map format
   4) Identify planned assessments for the program SLO.

- Apply principles of grammar and vocabulary in the documentation required to perform the duties of a repair technician to properly repair vehicles. (communication)
- Apply Mathematical concepts and practices that are required to properly perform vehicle repair competencies to an (ASE) Automotive Service Excellence standard. (computational)
- Evaluate evidence discovered during the diagnosis/troubleshooting of vehicles and apply those findings to strategies to properly repair the vehicle (critical thinking)
- Describe the scope and application of principle features of the field of study, including core practices in the vehicle repair industry. (specialized knowledge)
- Demonstrate personal and professional ethical behavior as applied to the Transportation Services industry. (specialized Knowledge)
- Demonstrate mastery of the current terminology in the Transportation Service industry (applied learning)
- Generate substantially error-free products or processes that define the duties of a repair technician (applied learning)
- Perform vehicle repair practices that meet or exceed industry standards as defined by (ASE) Automotive Service Excellence.(applied learning)

c. Program goals as they pertain to Colorado Mesa University's goals and objectives and Colorado Mesa University's Role and Mission.

There is hereby established a university at Grand Junction, to be known as Colorado Mesa University, which shall be a general baccalaureate and graduate institution with selective admission standards. Colorado Mesa University shall offer liberal arts and sciences, professional, and technical degree programs and a limited number of graduate programs. Colorado Mesa University shall also maintain a community college role and mission, including career and technical education programs. Colorado Mesa University shall receive resident credit for two-year course offerings in its commission-approved service area. Colorado Mesa University shall also serve as a regional education provider.

This program fulfills the career and technical program portion of the role and mission

d. Program strengths, special features, innovations, and/or unique elements.

1. Meets the 2013 NATEF standards
2. Allows the Light Duty Repair Technician the opportunity to advance the next level of technician competence.
3. Prepares the student for transition into the Advanced Automotive Technician program

e. External agencies, such as program accreditations, professional associations, as well as licensing requirements that have helped shape the program’s curriculum (i.e., effects such as length of the program, on program content or mode of delivery, etc.). Do faculty members anticipate seeking program accreditation at appropriate date?
f. Program admissions requirements (if any beyond admission to institution).

g. Rationale and justification for the program demonstrating the demand, as evidenced by:
   (1) Employer need/demand as demonstrated by evidence such as:
       (a) identification of several potential employers of program graduates;
       (b) projected regional and/or statewide need for graduates from current labor market analyses and/or future
defense workforces' projections/studies (potential source: www.oceanssupplydemand.org/)
       (c) surveys made by external agencies;
       (d) letters of direct employer support may be used. Include letters indicating the availability of positions for
       graduates of the proposed programs, signed by individual in a senior position of authority.
   (2) Student demand as demonstrated by evidence such as surveys of potential students to answer the question: “what
       is the student population served by program implementation?”

Western Slope Auto
Fuoco Motors
Bozarth/Miller Motors
McCandless Trucking
PDF Automotive
Firestone Tires
Sears Auto Center

The growth of jobs in Colorado for the next seven years is 20%, or about 700 jobs per year. The average wage is 18.00-
24.50/Hr. ONet.com

h. Relationship of the proposed program to existing programs on campus and to similar programs within the state, with a
   rationale reflecting that proposed program demand cannot be met by another program (i.e., program implementation is
   not an unnecessary duplication)

There are no programs in western Colorado offering this certificate

i. Curriculum, including identification of new courses and the numbers, names, and sequencing of all courses, as well as
demonstration of compliance with CMU's Credit Hour Policy as required by the U.S. Department of Education and
articulated by the Higher Learning Commission;
j. List of faculty and their qualifications. (Is there a need for additional faculty?)

Gary Looft, Technical Instructor, ASE Master Certified in Auto, Diesel, and Machinist as well as: Advanced L1,L2,L3,G1, F1

Eric Keith Wright, Assistant Technical Professor, ASE Master Certified Auto, as well as: Advanced L1, G1, C1

k. Description of learning resources needed for implementation. Scope and quality of library holdings, laboratories, clinical facilities, and technological support as applicable. Department’s recommendations for additions to the Library’s collection.

No Additional resources needed

l. Intended delivery mode for program. For programs delivering any of its coursework via 1) alternative formats, 2) outsourcing, and/or 3) a consortial relationship, the program proposal must demonstrate compliance with requirements as specified by the U.S. Department of Education and articulated in the Higher Learning Commission's policies. To demonstrate this compliance, the proposing department must submit a statement from the VPAA's office.

Lecture/Lab vocational format

m. For Professional, Technical or Other Programs, the justification must include:
   (1) Rationale for program to be in the PTO category.
   (2) Statement as to how the curriculum aligns to the requirements or recommendations of the nationally recognized accrediting, licensing, certifying or professional organization.
   (3) Rationale for the program to exceed 60 credit hours, if applicable.
   (4) Rationale for prescribing Applied Studies courses, if applicable.
   (5) Explanation as to how a transfer student with an AA degree in the discipline of that program can graduate by completing only an additional 60 hours.

This program meets the criteria for PTO status
TABLE 1: ENROLLMENT PROJECTIONS

Name of Program: Transportation Services Technology

Degree Title Automotive Service Technician

Name of Institution: WCCC

DEFINITIONS:

Academic year is the period beginning July 1 and concluding June 30.

Headcount projections represent an unduplicated count of those students officially admitted to the program and enrolled at the institution during the academic year.

FTE is defined as the full-time equivalent number of those students majoring in the program, regardless of the classes enrolled, during the academic year.

Program graduate is defined as a student who finishes all academic program requirements and graduates with a formal award within a particular academic year.

SPECIAL NOTES:

To calculate the annual headcount enrollment, add new enrollees to the previous year headcount and subtract the number who graduated in the preceding year. Adjust by the anticipated attrition rate.

To calculate FTE, multiply the number of students times the projected number of credit hours degree seeking students will be typically enrolled in per year and divide by 30.

The data in each column is the annual unduplicated number of declared program majors. Since this table documents program demand, course enrollments are not relevant and shall not be included in the headcount or FTE data.

<table>
<thead>
<tr>
<th></th>
<th>Yr 1</th>
<th>Yr 2</th>
<th>Yr 3</th>
<th>Yr 4</th>
<th>Yr 5</th>
<th>Full Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-state Headcount</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>1-b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-of-State Headcount</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Headcount</td>
<td>16</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>3-a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-state FTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-of-State FTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program FTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Graduates</td>
<td>0</td>
<td>16</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

Signature of Governing Board Officer ______________  Date ______________
**TABLE 2: PHYSICAL CAPACITY ESTIMATES**

Name of Program: Transportation Services Technology  
Name of Institution: WCCC  
Purpose: This table documents the physical capacity of the institution to offer the program and/or the plan for achieving the capacity. Complete A or B.

**Part A**

I certify that this proposed degree program can be fully implemented and accommodate the enrollment projections provided in this proposal without requiring additional space or renovating existing space during the first five years.

<table>
<thead>
<tr>
<th>Assignable Square Feet</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
<th>Column 5</th>
<th>Column 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Needed</td>
<td></td>
<td>Available</td>
<td>Renovation</td>
<td>New Construction</td>
<td>Lease/Rent</td>
<td>Revenue Source*</td>
</tr>
<tr>
<td>Classroom</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional Lab</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offices</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special/ General Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Capital Construction Fund (CCF), Research Building Revolving Fund (RBRF), Gift (GIFT), Grant (GR), Auxiliary Fund (AUX)

Attach a narrative describing the institutional contingency plan that addresses the space requirements of the proposed program or alternative delivery options, in the event that the request for capital construction or renovation is not approved.

**Part B**

<table>
<thead>
<tr>
<th>Assignable Square Feet</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
<th>Column 5</th>
<th>Column 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Needed</td>
<td></td>
<td>Available</td>
<td>Renovation</td>
<td>New Construction</td>
<td>Lease/Rent</td>
<td>Revenue Source*</td>
</tr>
<tr>
<td>Classroom</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional Lab</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offices</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special/ General Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Capital Construction Fund (CCF), Research Building Revolving Fund (RBRF), Gift (GIFT), Grant (GR), Auxiliary Fund (AUX)

Approved Policy I-B-10 June 5, 2003
### TABLE 3 – PROJECTED EXPENSE AND REVENUE ESTIMATES

All cost and revenue projections should be in constant dollars (do not include an inflation factor).

<table>
<thead>
<tr>
<th>Operating Expenses:</th>
<th>ESTIMATED AMOUNT IN DOLLARS (PV)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 1</td>
</tr>
<tr>
<td>1 Faculty</td>
<td>none</td>
</tr>
<tr>
<td>2 Financial Aid specific to program</td>
<td></td>
</tr>
<tr>
<td>3 Instructional Materials</td>
<td></td>
</tr>
<tr>
<td>4 Program Administration</td>
<td></td>
</tr>
<tr>
<td>5 Rent/Lease</td>
<td></td>
</tr>
<tr>
<td>6 Other Operating Costs</td>
<td></td>
</tr>
<tr>
<td>7 Total Operating Expenses</td>
<td></td>
</tr>
<tr>
<td>Program Start-Up Expenses</td>
<td>0</td>
</tr>
<tr>
<td>8 Capital Construction</td>
<td></td>
</tr>
<tr>
<td>0 Equipment Acquisitions</td>
<td></td>
</tr>
<tr>
<td>10 Library Acquisitions</td>
<td></td>
</tr>
<tr>
<td>11 Total Program Start-Up Exp.</td>
<td></td>
</tr>
<tr>
<td>TOTAL PROGRAM EXPENSES</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enrollment Revenue</th>
<th>Enrollment Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 General Fund: State Support</td>
<td>Enrollment Revenue</td>
</tr>
<tr>
<td>13 Cash Revenue: Tuition</td>
<td>Enrollment Revenue</td>
</tr>
<tr>
<td>14 Cash Revenue: Fees</td>
<td>Enrollment Revenue</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Revenue</th>
<th>Other Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Federal Grants</td>
<td>Other Revenue</td>
</tr>
<tr>
<td>16 Corporate Grants/Donations</td>
<td>Other Revenue</td>
</tr>
<tr>
<td>17 Other fund sources *</td>
<td>Other Revenue</td>
</tr>
<tr>
<td>18 Institutional Reallocation **</td>
<td>Other Revenue</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL PROGRAM REVENUE</th>
</tr>
</thead>
</table>

** If revenues are projected in this line, please attach an explanation of the specific source of the funds. If reallocated, the specific departments and the impact the dollars will have on the departments that will provide the reallocated dollars.

---

Signature of Governing Board Financial Officer: ____________________________
Title: ___________________________________
Date: ____________________________

Approved Policy: I-B-12
Date: June 5, 2003
<table>
<thead>
<tr>
<th>Course</th>
<th>COMMUNICATION</th>
<th>QUANTATATIVE</th>
<th>CRITICAL THINKING</th>
<th>SPECIALIZED KNOWLEDGE</th>
<th>APPLIED KNOWLEDGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTC 100 Intro to Transportation Service</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TSTC 101 Vehicle service and Inspection</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>TSTC 130 Electrical I</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTC 160 Electrical II</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTC 170 Chassis Fundamentals</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTC 171 Brakes I</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTG 115 Gas Engine Reconditioning</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTG 120 Industrial Safety Practices</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTG 135 Starting and Charging Systems</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTG 195 Climate Control</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTG 220 Workplace Skills</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTG 240 Job Shop</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTG 270 Practical Applications</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTA 245 Manual Drive Trains</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTA 247 Automatic Drive Trains</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTA 265 Engine Control Service</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTA 267 Body Controls</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTA 275 Alignment and Suspension Service</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTA 286 Hybrid Vehicles</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTA 287 Engine Performance and Emissions</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTA 289 Alternative Fueled Vehicles</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTD 177 Air Brakes</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTD 215 Diesel Engine Reconditioning</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>TSTD 265 Electronic Diesel Engine Controls</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
2016-2017 PETITION/PROGRAM SHEET
Award: Technical Certificate
Program of Study: Transportation Services Technology
Specialization: Automotive Service Technician

About This Certificate . . .

Students learn the fundamentals of electronics, starters, ignition, and charging systems; air conditioning, cooling and heating systems; safety; technical math; use of technical manuals; basic management skills; written and oral communication skills; and leadership. Advanced coursework includes an in-depth study of internal combustion engine disassembly, repair, reassembly, diagnosis and troubleshooting; suspension systems; and alignment and wheel balance. Career options include automotive/diesel technician, parts and service distributor, industrial sales representative and service manager.

For more information on what you can do with this major, go to http://www.coloradomesa.edu/wccc/programs.html.

All CMU certificate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Apply principles of grammar and vocabulary in the documentation required to perform the duties of a repair technician to properly repair vehicles. (Communication Fluency)
2. Apply Mathematical concepts and practices that are required to properly perform vehicle repair competencies to an (ASE) Automotive Service Excellence standard. (Quantitative Fluency)
3. Evaluate evidence discovered during the diagnosis and troubleshooting of vehicles and apply those finding to strategies to properly repair the vehicle. (Critical Thinking)
4. Describe the scope and application of principle features of the field of study, including core practices in the vehicle repair industry. (Specialized Knowledge)
5. Demonstrate mastery of the current terminology in the Transportation Service industry and generate substantially error-free products or processes that define the duties of a repair technician. (Specialized Knowledge)
6. Perform vehicle repair practices that meet or exceed industry standards as defined by (ASE) Automotive Service Excellence. (Applied Learning)
7. Demonstrate personal and professional ethical behavior as applied to the industrial. (Applied Learning)

NAME: _______________________________ STUDENT ID # _______________________________
LOCAL ADDRESS AND PHONE NUMBER: ____________________________________________ ( ) ______________________________

I, (Signature), hereby certify that I have completed (or will complete) all the courses listed on the Program Sheet. I have read and understand the policies listed on the last page of this program sheet. I further certify that the grade listed for those courses is the final course grade received except for the courses in which I am currently enrolled and the courses which I complete next semester. I have indicated the semester in which I will complete these courses.

Signature of Advisor Date
Signature of Department Head Date
Signature of Registrar Date
Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration. See the “Undergraduate Graduation Requirements” in the catalog for additional graduation information.

DEGREE REQUIREMENTS:
- 2.00 cumulative GPA or higher in all coursework
- 2.00 cumulative GPA or higher in coursework toward the major content area
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student’s responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student’s faculty advisor and Department Head.

### Required Courses (42 semester hours)

<table>
<thead>
<tr>
<th>Course No</th>
<th>Title</th>
<th>Sem. Hrs</th>
<th>Grade</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTG 220</td>
<td>Workplace Skills</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTA 245</td>
<td>Manual Drive Trains OR</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTA 247</td>
<td>Automatic Drive Trains</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTG 275</td>
<td>ABS/Diagnostics</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTA 275</td>
<td>Alignment &amp; Suspension Service</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTA 265</td>
<td>Engine Control Service</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

 Completion of Light Duty Tech Certificate 27
SUGGESTED COURSE SEQUENCING FOR A TECHNICAL CERTIFICATE IN TRANSPORTATION SERVICES TECHNOLOGY, AUTOMOTIVE SERVICE TECHNICIAN

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student’s responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTC 100 Intro to Transportation Services</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 170 Chassis Fundamentals</td>
<td>2</td>
</tr>
<tr>
<td>MATH 107 Career Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>TSTG 120 Industrial Safety Practices</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 171 Brakes I</td>
<td>2</td>
</tr>
<tr>
<td>TSTG 175 Brakes II</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTC 130 Electrical I</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 160 Electrical II</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 101 Maintenance and Inspection</td>
<td>3</td>
</tr>
<tr>
<td>CADT 101 Computer Applications</td>
<td>1</td>
</tr>
<tr>
<td>TSTD/G Restricted Electives</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTG 220 Workplace Skills</td>
<td>3</td>
</tr>
<tr>
<td>TSTA 245 Manual Drive Trains OR</td>
<td></td>
</tr>
<tr>
<td>TSTA 247 Automatic Drive Trains</td>
<td>4</td>
</tr>
<tr>
<td>TSTG 275 ABS/Diagnostics</td>
<td>2</td>
</tr>
<tr>
<td>TSTA 275 Alignment and Suspension Service</td>
<td>3</td>
</tr>
<tr>
<td>TSTA 265 Engine Control Service</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

POLICIES:
1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates. You must turn in your “Intent to Graduate” form to the Registrar’s Office by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December.
3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar’s Office. (Students cannot handle the forms once the advisor signs.)
4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your “Intent to Graduate” does not automatically move to a later graduation date.
5. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).
6. NOTE: Students should consult the Financial Aid Office for eligibility requirements for undergraduate and graduate certificates.
Course Additions

TSTA  286  Credit Hours  2

Course Title:  Hybrid Vehicles
Abbreviated Title:  Hybrid Vehicles
Contact hours per week:  Lecture Lab Field Studio Other 3
Type of Instructional Activity:  Lecture/Laboratory: Vocational/Technical
Academic engagement minutes:  2250  Student preparation minutes:  2250

Intended semesters for offering this course:  Fall □  J-Term □  Spring  ✔  Summer □
Essential Learning Course:  Yes  □  No  ✔
Prerequisites:  Yes  ✔  No  □
   TSTC 100, TSTC 130, TSTC 160
Prerequisite for other course(s):  Yes  □  No  ✔
Co-requisites:  Yes  □  No  ✔
Requirement or listed choice for any program of study:  Yes  ✔  No  □
   WCCC  AAS,  Transportation Services-Automotive Tech:  1341
   WCCC  AAS,  Transportation Services-Diesel Tech:  1342
   WCCC  Tech Cert,  Transportation Services-Automotive Service:  1346
   WCCC  Tech Cert,  Transportation Services-Diesel Mechanics:  1347

Overlapping content with present courses offered on campus:  Yes  □  No  ✔
Additional faculty FTE required:  Yes  □  No  ✔
Additional equipment required:  Yes  □  No  ✔
Additional lab facilities required:  Yes  □  No  ✔

Course description for catalog:
Introduction to hybrid technology in the transportation industry including: power and transmission designs, batteries, plug-in technology, control systems, safety, associated systems, diagnostics and repair of the modern hybrid vehicle.

Justification:
ASE and NATEF have split the alternative fueled area into Alternative Fuel and Hybrids requiring an addition of a hybrid course and modifying the existing Alternative Fuels course

Topical course outline:
1. Introduction to electric vehicles
2. Electrical theory review
3. Motors and generators
4. Batteries
5. Basics of battery powered vehicles
6. Series hybrids
7. Parallel hybrids
8. Assist hybrids
9. Power split full hybrids
10. Maintenance and service
11. Hybrid safety

Student Learning Outcomes:
1. safely access the safety switch and deactivate the electric drive
2. define the different drive mechanisms
3. perform a required maintenance schedule
4. define D/C - A/C motor operation
5. define a step-up and step-down transformation
6. measure available voltage and demand
7. evaluate a battery for condition and usability

Discussions with affected departments:
N/A

Proposed by:  Gary Looft

Expected Implementation: Fall 2016
TSTG 275

Course Title: ABS Diagnostics

Abbreviated Title: ABS Diagnostics

Credit Hours: 2

Contact hours per week: Lecture Lab Field Studio Other 3

Type of Instructional Activity: Lecture/Laboratory: Vocational/Technical

Academic engagement minutes: 2250 Student preparation minutes: 2250

Contact hours per week: 3

Intended semesters for offering this course: Fall ☐ J-Term ☐ Spring ☑ Summer ☐

Essential Learning Course: Yes ☑ No ☐

Prerequisites: TSTC 100, TSTC 130, TSTC 160, TSTC 171, TSTG 175

Prerequisite for other course(s): Yes ☑ No ☐

Co-requisites: Yes ☐ No ☑

Requirement or listed choice for any program of study: Yes ☑ No ☐

WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Overlapping content with present courses offered on campus: Yes ☑ No ☒

Additional faculty FTE required: Yes ☐ No ☑

Additional equipment required: Yes ☐ No ☑

Additional lab facilities required: Yes ☐ No ☑

Course description for catalog:

Introduction to anti-lock brake systems to include: ABS types and operation, diagnostics, traction control, stability control, regenerative braking and active braking systems

Justification:

NATEF has separated the ABS from the normal brake systems requiring a course addition and modification of TSTC 171 and TSTG 175.

Topical course outline:

1. ABS types
2. ABS terms and operation
3. Components
4. diagnostics
5. traction control
6. stability control
7. regenerative braking

Student Learning Outcomes:

1. identify ABS components
2. define operational parameters
3. perform a required diagnostic check
4. define traction control
5. define stability control
6. define regenerative braking
7. evaluate proper operation of the ABS system

Discussions with affected departments:
| Proposed by: | Gary Looft | Expected Implementation: | Fall 2016 |
## Course Modifications

**TSTA 265**

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course Prefix:</strong></td>
<td>TSTA</td>
</tr>
<tr>
<td><strong>Course No.:</strong></td>
<td>265</td>
</tr>
<tr>
<td><strong>Credit Hours</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Course Title:</strong></td>
<td>Engine Control Service</td>
</tr>
<tr>
<td><strong>Contact</strong></td>
<td>Lecture</td>
</tr>
<tr>
<td></td>
<td>Lab</td>
</tr>
<tr>
<td></td>
<td>Field</td>
</tr>
<tr>
<td></td>
<td>Studio</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Engage Min.:</strong></td>
<td>2250</td>
</tr>
<tr>
<td><strong>Prep Min.:</strong></td>
<td>2250</td>
</tr>
<tr>
<td><strong>Prerequisites:</strong></td>
<td>Current: None</td>
</tr>
</tbody>
</table>

- Requirement or listed choice for any program of study: Yes ☑ No □
- **WCCC** AAS, Transportation Services-Automotive Tech: 1341
- **WCCC** AAS, Transportation Services-Diesel Tech: 1342
- **WCCC** Tech Cert, Transportation Services-Automotive Service: 1346
- **WCCC** Tech Cert, Transportation Services-Diesel Mechanics: 1347

### Justification:
NATEF accreditation has added more depth to the repair tasks, requiring additional credit hrs to accomplish.

### Topical course outline, current:
1. fuel injection systems
2. inputs and outputs
3. on-board diagnostics
4. O2 sensors and fuel trim
5. engine condition diagnosis
6. intake and exhaust systems

### Topical course outline, proposed:
1. fuel injection systems
2. inputs and outputs
3. on-board diagnostics
4. O2 sensors and fuel trim
5. engine condition diagnosis
6. variable plane intake and exhaust systems
7. wide-band and air-fuel ratio sensors
8. direct injection
9. electronic throttle control
10. networks and engine control
11. fuel pumps
12. turbocharging or supercharging.

### Student Learning Outcomes, current:
1. identify fuel injection systems
2. test fuel injector fuel trim
3. identify performance parameters
4. define OBD II and it's components
5. retrieve and interpret OBD II codes

Student Learning Outcomes, proposed:
1. identify fuel injection systems
2. test fuel injector fuel trim
3. identify performance parameters
4. define OBD II and it's components
5. retrieve and interpret OBD II codes
6. define direct gas fuel injection
7. define and interpret air/fuel ratio sensor data
8. inspect, test and interpret fuel delivery parameters
9. troubleshoot variable plane intakes and throttle-by-wire systems

Proposed by: Gary Looft
Expected Implementation: Fall 2016

TSTA 267

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>TSTA</td>
<td>TSTA</td>
</tr>
<tr>
<td>Course No.:</td>
<td>267</td>
<td>267</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Body And Chassis Controls</td>
<td>Body Controls</td>
</tr>
<tr>
<td>Abbreviated</td>
<td>Body and Chassis Cn</td>
<td>Body Controls</td>
</tr>
<tr>
<td>Contact</td>
<td>Lecture</td>
<td>Lecture</td>
</tr>
<tr>
<td></td>
<td>Lab</td>
<td>Lab</td>
</tr>
<tr>
<td></td>
<td>Field</td>
<td>Field</td>
</tr>
<tr>
<td></td>
<td>Studio</td>
<td>Studio</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>Other</td>
</tr>
<tr>
<td>Engage Min.:</td>
<td>2250</td>
<td>3375</td>
</tr>
<tr>
<td>Prep Min.:</td>
<td>2250</td>
<td>3375</td>
</tr>
<tr>
<td>Prerequisites:</td>
<td>Current: None</td>
<td>Proposed: TSTC 100, TSTC 130, TSTC 160</td>
</tr>
</tbody>
</table>

Requirement or listed choice for any program of study: Yes ☑ No ☐

WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Justification:
NATEF accreditation has added more depth to the repair tasks, requiring additional credit hrs to accomplish

Topical course outline, current:
1. fuel injection systems
2. inputs and outputs
3. on-board diagnostics
4. O2 sensors and fuel trim
5. engine condition diagnosis
6. intake and exhaust systems

Topical course outline, proposed:
1. fuel injection systems
2. inputs and outputs
3. on-board diagnostics
4. O2 sensors and fuel trim
5. engine condition diagnosis
6. variable plane intake and exhaust systems
7. wide-band and air-fuel ratio sensors
8. direct injection
9. electronic throttle control
10. networks and engine control
11. fuel pumps
12. turbocharging or supercharging.

Student Learning Outcomes, current:
1. fuel injection systems
2. inputs and outputs
3. on-board diagnostics
4. define OBD II and its components
5. retrieve and interpret OBD II codes

Student Learning Outcomes, proposed:
1. fuel injection systems
2. inputs and outputs
3. on-board diagnostics
4. define OBD II and its components
5. retrieve and interpret OBD II codes
6. define direct gas fuel injection
7. define and interpret air/fuel ratio sensor data
8. inspect, test and interpret fuel delivery parameters
9. troubleshoot variable plane intakes and throttle-by-wire systems

Proposed by: Gary Looft
Expected Implementation: Fall 2016

TSTA 287

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>TSTA</td>
</tr>
<tr>
<td>Course No.:</td>
<td>287</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>2</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Engine Performance and Emissions</td>
</tr>
<tr>
<td>Engage Min.:</td>
<td>2250</td>
</tr>
<tr>
<td>Prep Min.:</td>
<td>2250</td>
</tr>
<tr>
<td>Prerequisites:</td>
<td>Current: None</td>
</tr>
<tr>
<td></td>
<td>Proposed: TSTC 100, TSTC 130, TSTC 160, TSTA 265</td>
</tr>
<tr>
<td>Requirement or listed choice for any program of study:</td>
<td>Yes</td>
</tr>
<tr>
<td>WCCC AAS, Transportation Services-Automotive Tech:</td>
<td>1341</td>
</tr>
</tbody>
</table>
NATEF accreditation has added more depth to the repair tasks, requiring additional credit hrs to accomplish

Topical course outline, current:
1. vehicle emissions systems
2. emission standards
3. gas analysis
4. scan tool diagnostics

Topical course outline, proposed:
1. vehicle emissions systems
2. emission standards
3. gas analysis
4. scan tool diagnostics
5. evaporative system diagnostics
6. EGR system diagnostics
7. PCV and AIR system diagnostics
8. catalytic converter diagnostics

Student Learning Outcomes, current:
1. define vehicle emissions systems
2. analyze exhaust gas test data
3. apply EPA emission standards
4. obtain emission codes and determine affected system

Student Learning Outcomes, proposed:
1. define vehicle emissions systems
2. analyze exhaust gas test data
3. apply EPA emission standards
4. obtain emission codes and determine affected system
5. diagnose EGR related failures
6. diagnose PCV and AIR system failures
7. perform a catalytic converter performance test
8. perform evaporative system tests and determine fault

Proposed by: Gary Looft

Expected Implementation: Fall 2016

TSTC 100

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>TSTC</td>
</tr>
<tr>
<td>Course No.:</td>
<td>100</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>1</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Introduction To Transportation Services</td>
</tr>
<tr>
<td>Contact</td>
<td>Lecture</td>
</tr>
<tr>
<td></td>
<td>Lab</td>
</tr>
<tr>
<td></td>
<td>Field</td>
</tr>
<tr>
<td></td>
<td>Studio</td>
</tr>
<tr>
<td></td>
<td>Other 1.5</td>
</tr>
<tr>
<td>Engage Min.:</td>
<td>1125</td>
</tr>
</tbody>
</table>
Co-requisites:
Current: None
Proposed: TSTC 170, TSTC 171, TSTG 175, TSTG 120, MATH 107

Description for catalog:
Current: Introduction to procedures, tool usage, basic shop safety, and equipment
Proposed: Introduction to procedures, tool usage, basic shop safety, basic employment skills, job documentation and equipment usage.

Requirement or listed choice for any program of study: Yes ☑  No ☐

WCCC  AAS,  Transportation Services-Automotive Tech:  1341
WCCC  AAS,  Transportation Services-Diesel Tech:  1342
WCCC  Tech Cert,  Transportation Services-Automotive Service:  1346
WCCC  Tech Cert,  Transportation Services-Diesel Mechanics:  1347

Justification:
NATEF certification requires additional tasks be added to the course. This task addition requires more time to complete.

Topical course outline, current:
1. Transportation industry overview
2. Shop safety
3. ASE Certification
4. Tool usage
5. Equipment usage
6. OSHA "right to know" law
7. Program policies and procedures

Topical course outline, proposed:
1. Transportation industry overview
2. Shop safety
3. ASE Certification
4. Tool usage
5. Equipment usage
6. OSHA "right to know" law
7. Program policies and procedures
8. Vehicle overview
9. Service literature
10. Customer relations
11. Professionalism
12. Ethics in the repair industry

Student Learning Outcomes, current:
1. pass a safety test with a 100% score
2. define osha's role in the workplace
3. identify common tools used in the industry
4. properly lift and support a vehicle
5. define the rules and regulations for vehicle repair

Student Learning Outcomes, proposed:
1. determine proper repair procedures as defined in a vehicle repair manual
2. pass a safety test with a 100% score
3. define osha's role in the workplace
4. identify common tools used in the industry
5. properly lift and support a vehicle
6. define the rules and regulations for vehicle repair
7. define the ethical and federal mandated repair practices
8. define the role and function of the modern vehicle sub-systems
9. identify professional traits of a repair technician

Essential Learning SLOs, proposed:
N/A

Discussions with affected departments:
N/A

Proposed by: Gary Looft

Expected Implementation: Fall 2016

TSTC 101

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>TSTC</td>
</tr>
<tr>
<td>Course No.:</td>
<td>101</td>
</tr>
<tr>
<td>Credit Hours:</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Vehicle Service and Inspection</td>
</tr>
<tr>
<td>Contact</td>
<td>Lecture</td>
</tr>
<tr>
<td></td>
<td>Lab</td>
</tr>
<tr>
<td></td>
<td>Field</td>
</tr>
<tr>
<td></td>
<td>Studio</td>
</tr>
<tr>
<td>Other</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Engage Min.:</td>
<td>2250</td>
</tr>
<tr>
<td>Prep Min.:</td>
<td>2250</td>
</tr>
<tr>
<td></td>
<td>3375</td>
</tr>
<tr>
<td></td>
<td>3375</td>
</tr>
</tbody>
</table>

Co-requisites:

Current: TSTC 101

Proposed: TSTC 130, TSTC 160, TSTG135, CADT101

Description for catalog:

Current: Introduction to vehicle systems, maintenance, and inspection. Service of the vehicle systems with emphasis on inspection and observation.

Proposed: Introduction to vehicle systems, internal combustion engine theory, systems diagnosis, fundamentals and evaluation. Service of the vehicle systems with emphasis on inspection and observation.

Requirement or listed choice for any program of study: Yes ☑ No ☐

WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Justification:

NATEF certification requires additional tasks be added to the course. This task addition requires more time to complete.

Topical course outline, current:
1. Engine Preventative Maintenance
2. Servicing Brake Systems
3. Suspension and Steering Service

**Topical course outline, proposed:**
1. Engine Preventative Maintenance
2. Servicing Brake Systems
3. Suspension and Steering Service
4. Automotive Engines
5. Theory of Engine Operation
6. Engine Repair and Rebuilding Industry
7. Engine Operating Systems
8. Engine Materials, Fasteners, Seals, and Gaskets
9. Intake and Exhaust Systems
10. Factors Affecting Engine Performance

**Student Learning Outcomes, current:**
1. perform an oil and filter change
2. replace all engine and transmission filters
3. perform under hood, undervehicle inspections
4. inspect and service the cooling system, exhaust systems and engine control devices
5. describe the steps of an express service

**Student Learning Outcomes, proposed:**
1. identify automotive engines types
2. define the theory of engine operation
3. define engine repair and rebuilding practices
4. engine operating systems
5. identify engine materials, fasteners, seals, and gaskets
6. identify intake and exhaust systems
7. define the factors affecting engine performance
8. perform and oil and filter change
9. replace all engine and transmission filters
10. perform under hood, undervehicle inspections
11. inspect and service the cooling system, exhaust systems
12. describe the steps of an express service

**Essential Learning SLOs, proposed:**
N/A

**Discussions with affected departments:**
N/A

---

**Proposed by:** Keith Wright

**Expected Implementation:** Fall 2016

---

**TSTC 130**

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>TSTC</td>
</tr>
<tr>
<td>Course No.:</td>
<td>130</td>
</tr>
<tr>
<td>Credit Hours:</td>
<td>2</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Electrical Fundamentals</td>
</tr>
<tr>
<td></td>
<td>Electrical I</td>
</tr>
</tbody>
</table>

66 of 156
Co-requisites:
Current:
Proposed: TSTC 130, TSTC 160, TSTG 135, CADT 101

Requirement or listed choice for any program of study:  Yes [✓] No [ ]

WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Justification:
To align with National Automotive Technician Educational Foundation (NATEF) Requirements

Topical course outline, current:

1.

Proposed by: Keith Wright  Expected Implementation: Fall 2016

<table>
<thead>
<tr>
<th>TSTC 160</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current</strong></td>
</tr>
<tr>
<td>Course Prefix:</td>
</tr>
<tr>
<td>Course No.:</td>
</tr>
<tr>
<td>Credit Hours</td>
</tr>
<tr>
<td>Course Title:</td>
</tr>
</tbody>
</table>

Co-requisites:
Current: none
Proposed: TSTC 130, TSTC 101, CADT 101, TSTG 135

Requirement or listed choice for any program of study:  Yes [✓] No [ ]

WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Justification:
To align with the National Automotive Technician Educational Foundation (NATEF)

Proposed by: Keith Wright  Expected Implementation: Fall 2016

<table>
<thead>
<tr>
<th>TSTC 170</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current</strong></td>
</tr>
<tr>
<td>Course Prefix:</td>
</tr>
<tr>
<td>Course No.:</td>
</tr>
<tr>
<td>Credit Hours</td>
</tr>
<tr>
<td>Course Title:</td>
</tr>
<tr>
<td>Contact</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Co-requisites:

Current: none

Proposed: TSTC 100, TSTC 171, TSTG 175, TSTG 120, MATH 107

Description for catalog:

Current: Theory and operation of front and rear suspension systems, including steering front end geometry and component nomenclature

Proposed: Introduction to front and rear suspension systems, including: steering front end geometry, maintenance, light repair and component nomenclature

Requirement or listed choice for any program of study:  

Yes  ☑  No  ☐

WCCC  AAS,  Transportation Services-Automotive Tech:  1341
WCCC  AAS,  Transportation Services-Diesel Tech:  1342
WCCC  Tech Cert,  Transportation Services-Automotive Service:  1346
WCCC  Tech Cert,  Transportation Services-Diesel Mechanics:  1347

Justification:

NATEF certification requires additional tasks be added to the course. This task addition requires more time to complete.

Topical course outline, current:

1. Intro to suspension and steering
2. Wheels and tires
3. Steering systems
4. Front suspension systems
5. Rear suspension systems
6. Alignment theory

Topical course outline, proposed:

1. Intro to suspension and steering
2. Wheels and tires
3. Steering systems
4. Front suspension systems
5. Rear suspension systems
6. Pre-alignment inspection
7. Alignment theory
8. Repair procedures

Student Learning Outcomes, current:

1. define suspension geometry
2. identify steering and suspension components
3. define steering geometry
4. identify faulty shocks or struts
5. identify tire coding

Student Learning Outcomes, proposed:

1. define suspension geometry
2. identify steering and suspension components
3. define steering geometry
4. identify faulty shocks or struts
5. perform alignment pre-inspection
6. remove and replace suspension and steering components
7. identify tire coding
8. evaluate tire wear and rotate tires

Essential Learning SLOs, proposed: N/A

Discussions with affected departments: N/A

Proposed by: Gary Looft Expected Implementation: Fall 2016

TSTC 171

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>TSTC</td>
</tr>
<tr>
<td>Course No.:</td>
<td>171</td>
</tr>
<tr>
<td>Credit Hours:</td>
<td>2</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Brake Fundamentals</td>
</tr>
<tr>
<td>Co-requisites:</td>
<td>Brakes I</td>
</tr>
<tr>
<td>Current:</td>
<td>Proposed: TSTC 100, TSTC 170, TSTC 175, TSTG 120, Math 107</td>
</tr>
</tbody>
</table>

Requirement or listed choice for any program of study: Yes ☑ No ☐

WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Justification:

To align with Colorado Common Course Numbering and National Automotive Technician Educational Foundation (NATEF)

Proposed by: Keith Wright Expected Implementation: Fall 2016

TSTG 120

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>TSTG</td>
</tr>
<tr>
<td>Course No.:</td>
<td>120</td>
</tr>
<tr>
<td>Credit Hours:</td>
<td>3</td>
</tr>
<tr>
<td>Credit Hours:</td>
<td>2</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Industry Safety Practices</td>
</tr>
<tr>
<td>Contact:</td>
<td>Lecture</td>
</tr>
<tr>
<td>Lab</td>
<td>Lab</td>
</tr>
<tr>
<td>Field</td>
<td>Field</td>
</tr>
<tr>
<td>Studio</td>
<td>Studio</td>
</tr>
<tr>
<td>Other</td>
<td>4.5</td>
</tr>
<tr>
<td>Instr. Activity:</td>
<td>Lecture/Laboratory: Lecture</td>
</tr>
<tr>
<td>Engage Min.:</td>
<td>3375</td>
</tr>
<tr>
<td>Prep Min.:</td>
<td>3375</td>
</tr>
<tr>
<td>Prerequisites:</td>
<td>Current: None</td>
</tr>
<tr>
<td>Proposed:</td>
<td>TSTC 100, TSTC 130, TSTC 160</td>
</tr>
</tbody>
</table>
The change in credit hours is due to reduced tasks that were moved to TSTC 100 and TSTC 101. The program advisory committee recommended concentrating the TSTG 120 class on OSHA and EPA regulations and move the equipment safety to the courses.

Topical course outline, current:
1. OSHA regulations
2. EPA regulations
3. S/P2 certification
4. Dealership certification
5. Hazard waste regulations

Topical course outline, proposed:
1. OSHA regulations
2. EPA regulations
3. S/P2 certification

Student Learning Outcomes, current:
1. pass S/P2 certification
2. determine hazardous material waste streams
3. apply OSHA regulations to a work environment
4. define dealership responsibilities
5. apply EPA regulations to a work related scenario

Student Learning Outcomes, proposed:
1. pass S/P2 certification
2. determine hazardous material waste streams
3. apply OSHA regulations to a work environment
4. apply EPA regulations to a work related scenario

Proposed by: Gary Looft
Expected Implementation: Fall 2016
The change of the title aligns this course with the Colorado Common Course numbering system

Justification:
The change of the title aligns this course with the Colorado Common Course numbering system

Topical course outline, proposed:

Proposed by: Gary Looft
Expected Implementation: Fall 2016

TSTG 175

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>TSTG</td>
</tr>
<tr>
<td>Course No.:</td>
<td>175</td>
</tr>
<tr>
<td>Credit Hours:</td>
<td>2</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Hydraulic Brake Service</td>
</tr>
<tr>
<td>Co-requisites: Current:</td>
<td>None</td>
</tr>
<tr>
<td>Proposed:</td>
<td>TSTC 100, TSTC 170, TSTC 171 , TSTG 120, Math 107</td>
</tr>
<tr>
<td>Requirement or listed choice for any program of study:</td>
<td>Yes</td>
</tr>
<tr>
<td>WCCC Tech Cert, Transportation Services-Automotive Service:</td>
<td>1346</td>
</tr>
<tr>
<td>WCCC Tech Cert, Transportation Services-Diesel Mechanics:</td>
<td>1347</td>
</tr>
</tbody>
</table>

Justification:
To align with Colorado Common Course Numbering and National Automotive Technician Educational Foundation (NATEF)

Proposed by: Keith Wright
Expected Implementation: Fall 2016

TSTG 195

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>TSTG</td>
</tr>
<tr>
<td>Course No.:</td>
<td>195</td>
</tr>
<tr>
<td>Credit Hours:</td>
<td>2</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Climate Control Service</td>
</tr>
<tr>
<td>Co-requisites: Current:</td>
<td>Climate Control</td>
</tr>
<tr>
<td>Contact</td>
<td>Lecture</td>
</tr>
<tr>
<td></td>
<td>Lab</td>
</tr>
<tr>
<td></td>
<td>Field</td>
</tr>
<tr>
<td></td>
<td>Studio</td>
</tr>
<tr>
<td>Other:</td>
<td>3.0</td>
</tr>
<tr>
<td>Engagement Min.:</td>
<td>2250</td>
</tr>
<tr>
<td>Prep Min.:</td>
<td>2250</td>
</tr>
<tr>
<td>Expected Implementation:</td>
<td>Fall 2016</td>
</tr>
<tr>
<td>Co-requisites: Current:</td>
<td>Climate Control</td>
</tr>
<tr>
<td>Contact</td>
<td>Lecture</td>
</tr>
<tr>
<td></td>
<td>Lab</td>
</tr>
<tr>
<td></td>
<td>Field</td>
</tr>
<tr>
<td></td>
<td>Studio</td>
</tr>
<tr>
<td>Other:</td>
<td>6.0</td>
</tr>
<tr>
<td>Preparation Min.:</td>
<td>6750</td>
</tr>
<tr>
<td>Co-requisites: Current:</td>
<td>Climate Control</td>
</tr>
</tbody>
</table>

71 of 156
Proposed: TSTC 100, TSTC 130, TSTC 160

Description for catalog:
Current: Repair, diagnosis, R & R of components, charging, recycling and testing of heating and air conditioning systems of over the road vehicles.

Proposed:
Introduction to repair, diagnosis, R & R of components, charging, recycling and testing of heating and air conditioning systems of over the road vehicles.
Theory of operation, nomenclature, identification, safety and environmental impact factors of air conditioning. Also covers heating and ventilation systems.

Requirement or listed choice for any program of study: Yes ☑ No ☐

WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Justification:
To align with the National Automotive Technician Educational Foundation (NATEF)

Topical course outline, current:
1. Shop Procedures and Tools
2. Diagnosis and Service of Engine Cooling and Comfort Heating Systems
3. The Manifold and Gauge Set
4. Servicing System Components
5. Air-Conditioning System Servicing and Testing
6. Diagnosis of the Refrigeration System
7. Compressors and Clutches
8. Diagnosis and Service of the System Controls
9. Case and Duct Systems
10. Retrofit (R12) to (R134a)

Topical course outline, proposed:
1. Heating and Air Conditioning-History and the Environment
2. Temperature and Pressure Fundamentals
3. Engine Cooling and Comfort Heating Systems
4. Air-Conditioning System Operating Principles
5. Refrigerant System Components
6. Shop Procedures and Tools
7. Diagnosis and Service of Engine Cooling and Comfort Heating Systems
8. The Manifold and Gauge Set
9. Servicing System Components
10. Air-Conditioning System Servicing and Testing
11. Diagnosis of the Refrigeration System
12. Compressors and Clutches
13. Diagnosis and Service of the System Controls
14. Case and Duct Systems

Student Learning Outcomes, current:
1. Test and replace heating system components.
2. Perform system performance test.
3. Test and replace refrigerant system components.
4. Inspect heating and cooling systems for leaks.
5. Testing and analyzing refrigerant.
6. Retrofit (R12) to (R134a)

**Student Learning Outcomes, proposed:**

1. Discuss the history and environmental impacts of refrigeration systems.
2. Interperate and describe temperature and pressure principles.
3. Describe and discuss engine cooling, comfort heating systems and air-conditioning operation.
4. Identify, describe and discuss refrigerant system components.
5. Discuss and interperate system controls.
6. Test and replace heating system components.
7. Perform system performance test.
8. Test and replace refrigerant system components.
9. Inspect heating and cooling systems for leaks.
10. Test and analyze refrigerant.

---

**TSTG 220**

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>TSTG</td>
</tr>
<tr>
<td>Course No.:</td>
<td>220</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>3</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Industry Employment Practices</td>
</tr>
<tr>
<td>Abbreviated:</td>
<td>Ind Empl Practices</td>
</tr>
<tr>
<td>Requirement or listed choice for any program of study:</td>
<td>Yes</td>
</tr>
<tr>
<td>WCCC AAS, Transportation Services-Automotive Tech:</td>
<td>1341</td>
</tr>
<tr>
<td>WCCC AAS, Transportation Services-Diesel Tech:</td>
<td>1342</td>
</tr>
<tr>
<td>WCCC Tech Cert, Transportation Services-Automotive Service:</td>
<td>1346</td>
</tr>
<tr>
<td>WCCC Tech Cert, Transportation Services-Diesel Mechanics:</td>
<td>1347</td>
</tr>
</tbody>
</table>

**Justification:**

NATEF accreditation has added workplace skills to the accreditation task list, and the program advisory committee recommended the name change to reflect what is actually being taught. This course already contained these tasks so no change to the course outline or SOL's is needed.

---

**TSTG 240**

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix:</td>
<td>TSTG</td>
</tr>
<tr>
<td>Course No.:</td>
<td>240</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>4</td>
</tr>
<tr>
<td>Course Title:</td>
<td>Advanced Job Shop</td>
</tr>
<tr>
<td>Abbreviated:</td>
<td>Adv Job Shop</td>
</tr>
<tr>
<td>Prerequisites:</td>
<td>Current: TSTG 140</td>
</tr>
</tbody>
</table>
Proposed: Sophomore status or Consent of Instructor

Description for catalog:
Current: Application of workplace skills in a controlled shop environment, through the use of real-life lab work projects, performed in house, when internships or co-op opportunities are not available

Proposed:

Requirement or listed choice for any program of study: Yes ☑ No ☐
WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Justification:
Title change better reflects the actual course content

Essential Learning SLOs, proposed:
N/A

Discussions with affected departments:
N/A

Proposed by: Gary Looft Expected Implementation: Fall 2016

TSTG 270

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix: TSTG</td>
<td>TSTG</td>
</tr>
<tr>
<td>Course No.: 270</td>
<td>270</td>
</tr>
<tr>
<td>Credit Hours: 4</td>
<td>4</td>
</tr>
<tr>
<td>Course Title: Advanced Practical Applications</td>
<td>Practical Applications</td>
</tr>
<tr>
<td>Abbreviated: Adv Practical Appl</td>
<td>Practical Appl</td>
</tr>
</tbody>
</table>

Prerequisites:
Current: TSTG 170
Proposed: Consent of Instructor

Description for catalog:
Current: Designed to increase student competency through the use of internships or co-op training and real-life shop experiences in their chosen area specialty.

Proposed:

Requirement or listed choice for any program of study: Yes ☑ No ☐
WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Justification:
Title change better reflects the actual course content

Essential Learning SLOs, proposed:
Course Deletions

TSTC 110

<table>
<thead>
<tr>
<th>Type of Change</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Essential Learning Course</th>
<th>Requirement or listed choice for any program of study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deletion</td>
<td>Engine Fundamentals</td>
<td>1</td>
<td>Yes (✓) No (☐)</td>
<td>Yes (✓) No (☐)</td>
</tr>
</tbody>
</table>

WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Prerequisite for other course(s): Yes (✓) No (☐)
Co-requisite for other course(s): Yes (✓) No (☐)

Justification:
This course has been combined with TSTC101 and TSTG 115, and fulfills NATEF new certification requirements

Proposed by: Gary Looft
Expected Implementation: Fall 2016
TSTC 140  
Credit Hours  1

Type of Change  Deletion
Course Title:  Drive Train Fundamentals
Essential Learning Course:  Yes  ☐  No  ☑

Requirement or listed choice for any program of study:  Yes  ☑  No  ☐
WCCC  AAS,  Transportation Services-Automotive Tech:  1341
WCCC  AAS,  Transportation Services-Diesel Tech:  1342
WCCC  Tech Cert,  Transportation Services-Automotive Service:  1346
WCCC  Tech Cert,  Transportation Services-Diesel Mechanics:  1347

Prerequisite for other course(s):  Yes  ☐  No  ☑
Co-requisite for other course(s):  Yes  ☐  No  ☑

Justification:
This course has been combined with TSTA 245, TSTA 247, and TSTC 101 and fulfills NATEF new certification requirements

Proposed by:  Gary Looft  
Expected Implementation:  Fall 2016

76 of 156
TSTC 180

Type of Change: Deletion
Course Title: Fuel System Fundamentals

Essential Learning Course: Yes ☑ No ☐

Requirement or listed choice for any program of study: Yes ☑ No ☐

WCCC  AAS, Transportation Services-Automotive Tech: 1341
WCCC  AAS, Transportation Services-Diesel Tech: 1342
WCCC  Tech Cert, Transportation Services-Automotive Service: 1346
WCCC  Tech Cert, Transportation Services-Diesel Mechanics: 1347

Prerequisite for other course(s): Yes ☑ No ☐

Co-requisite for other course(s): Yes ☑ No ☐

Justification:
This course has been combined with TSTC 101, TSTA 265,TSTA 287 and fulfills NATEF new certification requirements

Proposed by: Gary Looft

Expected Implementation: Fall 2016
TSTC 190

Type of Change: Deletion
Course Title: Climate Control Fundamentals

Essential Learning Course: Yes ☑ No ☐

Requirement or listed choice for any program of study: Yes ☑ No ☐

WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Prerequisite for other course(s): Yes ☐ No ☑

Co-requisite for other course(s): Yes ☐ No ☑

Justification:
This course has been combined with TSTG 195, and fulfills NATEF new certification requirements.

Proposed by: Gary Looft
Expected Implementation: Fall 2016
TSTD 285

Credit Hours  1

Type of Change  Deletion

Course Title:  Diesel Fuel Injection

Essential Learning Course:  Yes  ☑  No  ☐

Requirement or listed choice for any program of study:  Yes  ☑  No  ☐

WCCC  AAS,  Transportation Services-Automotive Tech:  1341
WCCC  AAS,  Transportation Services-Diesel Tech:  1342
WCCC  Tech Cert,  Transportation Services-Automotive Service:  1346
WCCC  Tech Cert,  Transportation Services-Diesel Mechanics:  1347

Prerequisite for other course(s):  Yes  ☑  No  ☐

Co-requisite for other course(s):  Yes  ☑  No  ☐

Justification:

With the advent of computerized Diesel Fuel Injection, the course content of this mechanical fuel injection class is slowly diminishing, and is no longer available in textbooks, or used on current vehicles.

Proposed by:  Gary Looft  Expected Implementation:  Fall 2016
TSTG 140

Credit Hours: 4

Type of Change: Deletion

Course Title: Job Shop

Essential Learning Course: Yes

Prerequisite for other course(s): No

Co-requisite for other course(s): No

Requirement or listed choice for any program of study: Yes

WCCC AAS, Transportation Services-Automotive Tech: 1341
WCCC AAS, Transportation Services-Diesel Tech: 1342
WCCC Tech Cert, Transportation Services-Automotive Service: 1346
WCCC Tech Cert, Transportation Services-Diesel Mechanics: 1347

Justification:
No need for this course at a 100 level

Proposed by: Gary Looft

Expected Implementation: Fall 2016
TSTG 170
Credit Hours  4

Type of Change  Deletion
Course Title:  Practical Applications
Essential Learning Course:  Yes  ☑  No  ☐

Requirement or listed choice for any program of study:  Yes  ☑  No  ☐
WCCC  AAS,  Transportation Services-Automotive Tech:  1341
WCCC  AAS,  Transportation Services-Diesel Tech:  1342
WCCC  Tech Cert,  Transportation Services-Automotive Service:  1346
WCCC  Tech Cert,  Transportation Services-Diesel Mechanics:  1347

Prerequisite for other course(s):  Yes  ☑  No  ☐
Co-requisite for other course(s):  Yes  ☑  No  ☐

Justification:
No need for this course at a 100 level

Proposed by:  Gary Looft  Expected Implementation:  Fall 2016

Program Modification

Transportation Services-Automotive Service:  1346

Degree Type:  AAS
Modified Program Name:  Advanced Automotive Service Technician
Modified Program Name:  Adv Automotive Service Tech
Revision to program sheet:  Yes  ☑  No  ☐
Description of modification:
Name Change; Credit Hours; Sequencing

Program Modifications:
AAS Automotive
Certificate:  Automotive

Course Additions:
TSTA 286 Hybrid Vehicles
TSTG 275 ABS/Diagnostics

Course Deletions:
TSTC 110 Engine Fundamentals
TSTC 140 Drive Train Fundamentals
TSTC 180 Fuel Fundamentals
TSTC 190 Climate Control Fundamentals
TSTD 285 Diesel Fuel Injection

Course Modifications:
TSTC 101 Vehicle Service and Inspection
TSTC 130 Electrical Fundamentals
TSTC 160 Electronic Control Systems
TSTC 170 Chassis Fundamentals
TSTC 171 Brake Fundamentals
TSTG 175 Hydraulic Brakes Service
TSTG 135 Electrical Component Repair
TSTG 195 Climate Control Service
TSTG 120 Industrial Safety Practices
TSTG 220 Industrial Employment Practices
TSTG 265 Engine Control Services
TSTA 267 Body and Chassis Controls
TSTA 287 Engine Performance and Emissions

Justification:
National Automotive Technician Education Foundation (NATEF) 2013 revised standards for program accreditation requires restructuring program content.

Revision to SLOs: Yes ☑ No ☐

Program Outcomes for Transportation Services Technology

Graduates should be able to:

Communication
Apply principles of grammar and vocabulary in the documentation required to perform the duties of a repair technician to properly repair vehicles.

Computational
Apply Mathematical concepts and practices that are required to properly perform vehicle repair competencies to an (ASE) Automotive Service Excellence standard.

Critical Thinking
Evaluate evidence discovered during the diagnosis/troubleshooting of vehicles and apply those findings to strategies to properly repair the vehicle.

Specialized knowledge
Describe the scope and application of principle features of the field of study, including core practices in the vehicle repair industry.

Demonstrate personal and professional ethical behavior as applied to the Transportation Services industry.

Applied learning
Demonstrate mastery of the current terminology in the Transportation Service industry
Generate substantially error-free products or processes that define the duties of a repair technician
Perform vehicle repair practices that meet or exceed industry standards as defined by (ASE) Automotive Service Excellence.

Other changes: Yes ☐ No ☑

Discussions with affected departments:
NA

Proposed by: Eric Keith Wright
Director of Teacher Education Signature:

Expected Implementation: Fall 2016
Degree: Associate of Applied Science
Major: Transportation Services
Emphasis: Automotive Technology Advanced Automotive Service Technician

About This Emphasis . . .
In the Associate of Applied Science degree with a major in Transportation Services, and emphasis in Advanced Automotive Service Technician, students learn the fundamentals of electronics, starters, ignition, and charging systems; air conditioning, cooling and heating systems; safety; technical math; use of technical manuals; basic management skills; written and oral communication skills; and leadership. Advanced coursework includes an in-depth study of internal combustion engine disassembly, repair, reassembly, diagnosis and troubleshooting; suspension systems; and alignment and wheel balance. The Advanced Automotive Service Technician Automotive Technology emphasis prepares students for careers as automotive technicians, parts and service distributors, industrial sales representatives, service managers, and business owners in the transportation services industry.

For more information on what you can do with this major, go to http://www.coloradomesa.edu/wccc/programs.html

All CMU associate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Apply principles of grammar and vocabulary in the documentation required to perform the duties of a repair technician to properly repair vehicles. (Communication Fluency)
2. Apply Mathematical concepts and practices that are required to properly perform vehicle repair competencies to an (ASE) Automotive Service Excellence standard. (Quantitative Fluency)
3. Evaluate evidence discovered during the diagnosis and troubleshooting of vehicles and apply those finding to strategies to properly repair the vehicle. (Critical Thinking)
4. Describe the scope and application of principal features of the field of study, including core practices in the vehicle repair industry. (Specialized Knowledge)
5. Demonstrate mastery of the current terminology in the Transportation Service industry and generate substantially error-free products or processes that define the duties of a repair technician. (Specialized Knowledge)
6. Perform vehicle repair practices that meet or exceed industry standards as defined by (ASE) Automotive Service Excellence. (Applied Learning)
7. Demonstrate personal and professional ethical behavior as applied to the industry. (Applied Learning)
8. Define the legal and ethical standards required of the vehicle repair industry. (Specialized Knowledge)

NAME: ___________________________ STUDENT ID #: ___________________________

LOCAL ADDRESS AND PHONE NUMBER: ________________________________________

( )

I, (Signature) ____________________________________________________________, hereby certify that I have completed (or will complete) all the courses listed on the Program Sheet. I have read and understand the policies listed on the last page of this program sheet. I further certify that the grade listed for those courses is the final course grade received except for the courses in which I am currently enrolled and the courses which I complete next semester. I have indicated the semester in which I will complete these courses.

Signature of Advisor Date 20 __

Signature of Department Head Date 20 __

Signature of Registrar Date 20 __
DEGREE REQUIREMENTS:

- 60-70 semester hours total (A minimum of 16 taken at CMU in no fewer than two semesters).
- 2.00 cumulative GPA or higher in all CMU coursework and a “C” or better must be achieved in coursework toward major content area.
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student’s responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student’s faculty advisor and Department Head.
- When filling out the program sheet a course can be used only once.
- See the “Undergraduate Graduation Requirements” in the catalog for additional graduation information.

ESSENTIAL LEARNING REQUIREMENTS (Minimum 15-17 semester hours) See the current catalog for a list of courses that fulfill the requirements below. If a course is on the Essential Learning list of options and a requirement for your major, you must use it to fulfill the major requirement and make a different selection within the Essential Learning requirement. The Essential Learning capstone course and co-requisite Essential Speech course (required for bachelor’s degrees) cannot be used as options for the below requirements.

Course No Title Sem.hrs Grade Term/Tms

Communication (6 semester hours)
ENGL 111 English Composition 3 —
ENGL 112 English Composition 3 —

-OR-
ENGL 111 English Composition and 3 —
SPCH 101 Interpersonal Communication or 3 —
SPCH 102 Speechmaking 3 —

Course No Title Sem.hrs Grade Term/Tms

Mathematics, (Minimum 3 semester hours) (Minimum Math 107)

Math 107 or higher 3 —

in the Light Duty 3 — Math Requirement was met

Automotive Technician Certificate

Social Sciences, Natural Science, Fine Arts, or Humanities
(Minimum 6 semester hours)


*Please see your advisor for requirements specific to this program.

Choose a minimum of 2489 semester hours from list below.

ASSOCIATE OF APPLIED SCIENCE: TRANSPORTATION SERVICES – AUTOMOTIVE TECHNOLOGY

Required Courses: 22 semester hours

<table>
<thead>
<tr>
<th>Course No Title</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Tms</th>
</tr>
</thead>
</table>

TSTA 100 Intro To Transportation Service 2
TSTA 101 Vehicle Service and Inspection 3
TSTA 130 Electrical I 2
TSTA 160 Electrical II 2
TSTA 170 Chassis Fundamentals 2
TSTA 171 Brakes I 2
TSTA 195 Climate Control 4
TSTA 220 Workplace Skills 3
TSTA 275 ABS/Diagnostics 2
TSTA 245 Manual Drive Trains OR 5
TSTA 247 Automatic Drive Trains 4
TSTA 265 Engine Control Service 3
TSTA 267 Body Controls 3
TSTA 275 Alignment and Suspension Service 3
TSTA 287 Eng Performance and Emissions 3
CADT 101 Intro to Computers 1

Restricted Electives

<table>
<thead>
<tr>
<th>Course No Title</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Tms</th>
</tr>
</thead>
</table>

TSTC 100 Intro To Transportation Service 2
TSTC 101 Vehicle Service and Inspection 3
TSTC 130 Electrical I 2
TSTC 160 Electrical II 2
TSTC 170 Chassis Fundamentals 2
TSTC 171 Brakes I 2
TSTC 195 Climate Control 4
TSTA 220 Workplace Skills 3
TSTA 275 ABS/Diagnostics 2
TSTA 245 Manual Drive Trains OR 5
TSTA 247 Automatic Drive Trains 4
TSTA 265 Engine Control Service 3
TSTA 267 Body Controls 3
TSTA 275 Alignment and Suspension Service 3
TSTA 287 Eng Performance and Emissions 3
CADT 101 Intro to Computers 1

Choose a minimum of 2489 semester hours from list below.
Choose 29 semester hours from Restricted Electives:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTD 265</td>
<td>Diesel Engine Controls</td>
<td>3</td>
</tr>
<tr>
<td>TSTA 245</td>
<td>Manual Drive Train</td>
<td>4</td>
</tr>
<tr>
<td>TSTD 135</td>
<td>Electrical Component Repair</td>
<td>2</td>
</tr>
<tr>
<td>TSTA 247</td>
<td>Automatic Drive Train Service</td>
<td>4</td>
</tr>
<tr>
<td>TSTD 266</td>
<td>Engine Control Services</td>
<td>2</td>
</tr>
<tr>
<td>TSTA 267</td>
<td>Body and Chassis Controls</td>
<td>2</td>
</tr>
<tr>
<td>TSTA 275</td>
<td>Alignment and Suspension Service</td>
<td>3</td>
</tr>
<tr>
<td>TSTA 287</td>
<td>Engine Performance and Emissions</td>
<td>2</td>
</tr>
<tr>
<td>TSTA 289</td>
<td>Alternative Fueled Vehicles</td>
<td>2</td>
</tr>
<tr>
<td>TSTD 285</td>
<td>Diesel Fuel Injection</td>
<td></td>
</tr>
<tr>
<td>TSTA 286</td>
<td>Hybrid Fueled Vehicles</td>
<td>2</td>
</tr>
<tr>
<td>TSTD 285</td>
<td>Advanced Practical Applications</td>
<td>4</td>
</tr>
<tr>
<td>TSTG 115</td>
<td>Engine Reconditioning</td>
<td>4</td>
</tr>
<tr>
<td>TSTD 215</td>
<td>Diesel Eng Recon</td>
<td>5</td>
</tr>
<tr>
<td>TSTD 265</td>
<td>Diesel Engine Controls</td>
<td>3</td>
</tr>
<tr>
<td>TSTG 115</td>
<td>Gas Engine Reconditioning</td>
<td>4</td>
</tr>
<tr>
<td>WELD 151</td>
<td>Introduction to Welding</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional expenses – Students entering the program may be required to purchase or have hand tools and appropriate clothing and safety gear with a total cost of approximately $2500.00. This does not include cost of required textbooks. These costs may vary with student need and brand or quality of tools or equipment purchased. All safety glasses must meet the minimum industry safety standard of Z-87 with side shields.

Please see faculty advisor for approved electives.

SUGGESTED COURSE SEQUENCING FOR THE ASSOCIATE OF APPLIED SCIENCE WITH A MAJOR IN TRANSPORTATION SERVICES, EMPHASIS IN ADVANCED AUTOMOTIVE SERVICE TECHNOLOGY

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student’s responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.
### FRESHMAN YEAR

#### Fall Semester
- **TSTC 100**: Introduction to Transportation Services (12 hours)
- **TSTC 101**: Vehicle Service and Inspection Brakes I (2)
- **TSTC TSTG 110**: Engine Fundamentals, Brakes II (4)
- **TSTC 130**: Electrical Fundamentals (2)
- **TSTC 160**: Electronic Control Systems (2)
- **TSTC 170**: Chassis Fundamentals (12)
- **TSTG 120**: Industrial Safety Practices (32)
- **MATH 107**: Career Mathematics or Higher (3)
- **KINE 100**: Health and Wellness (1)
- **KINA XXX**: Activity (1)
- **ENGL 111**: English Composition (3)
- **Electives TSTA/G/D**: (3)

#### Hours: 18

#### Spring Semester
- **TSTC 180**: Fuel System Fundamentals, Electrical I (2)
- **TSTC 140**: Drive Train Fundamentals, Electrical II (4)
- **TSTC TSTG 171**: Brake System Fundamentals, Starting and Charging Systems (2)
- **TSTC 190**: Climate Control Fundamentals, Maintenance and Inspection (3)
- **TSTG CADT 101**: Fluid Power Computer Applications (31)
- **TSTG/A/D Electives**: (6)
- **ENGL 111**: English Essential Learning: Social Sciences, Natural Science, Fine Arts or Humanities (3)

#### Hours: 17

### SOPHOMORE YEAR

#### Fall Semester
- **ENGL 112 or SPCH 101 or SPCH 102**: (3)
- **TSTA 245 Manual Drive Trains or TSTA 247 Automatic Drive Trains**: (4)
- **ENGL 112 or SPCH 101 or SPCH 102**: (3)
- **TSTA/G/D Electives**: (11)
- **TSTA 265 Engine Control Service**: (3)
- **TSTA 275 Alignment and Suspension Service**: (3)
- **TSTG 220 Work Place Skills**: (3)

#### Hours: 18

#### Spring Semester
- **TSTA 220**: Industry Employment Practices (3)
- **TSTA/G/D Electives**: (9)
- **TSTA 267**: Body/Chassis Controls (3)
- **KINE 100**: Health and Wellness (3)
- **TSTA 287**: Engine Performance and Emissions (3)
- **KINA XXX**: Activity (4)
- **TSTG 195**: Climate Control (4)
- **TSTA/G Restricted Electives**: (48)
- **ENGL 111**: English Essential Learning: Social Sciences, Natural Science, Fine Arts, or Humanities (3)

#### Hours: 18

### POLICIES:
1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates.
must turn in your “Intent to Graduate” form to the Registrar’s Office by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December.

3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar’s Office. (Students cannot handle the forms once the advisor signs.)

4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your “Intent to Graduate” does not automatically move to a later graduation date.

5. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).
Transportation Services-Automotive Service: 1346

Degree Type: Tech Cert

Modified Program Name: Light Duty Automotive Technician

Modified Program Name: Light Duty Auto Tech

Revision to program sheet: Yes ☑ No ☐

Description of modification:
Name Change; Credit Hours; Sequencing

Program Modifications:
AAS Automotive and Diesel Certificate: Automotive and Diesel

Course Additions:
TSTA 286 Hybrid Vehicles
TSTG 275 ABS/Diagnostics

Course Deletions:
TSTC 110 Engine Fundamentals
TSTC 140 Drive Train Fundamentals
TSTC 180 Fuel Fundamentals
TSTC 190 Climate Control Fundamentals
TSTD 285 Diesel Fuel Injection

Course Modifications:
TSTC 101 Vehicle Service and Inspection
TSTC 130 Electrical Fundamentals to Electrical I
TSTC 160 Electronic Control Systems to Electrical II
TSTC 170 Chassis Fundamentals
TSTC 171 Brake Fundamentals
TSTG 175 Hydraulic Brakes Service
TSTG 135 Electrical Component Repair
TSTG 195 Climate Control Service
TSTG 120 Industrial Safety Practices
TSTG 220 Industrial Employment Practices
TSTA 265 Engine Control Services
TSTA 267 Body and Chassis Controls
TSTA 287 Engine Performance and Emissions

Justification:
National Automotive Technician Education Foundation (NATEF) 2013 revised standards for program accreditation requires restructuring program content.

Revision to SLOs: Yes ☑ No ☐

Other changes: Yes ☑ No ☐

Discussions with affected departments:
NA

Proposed by: Eric Keith Wright

Director of Teacher Education Signature:

Expected Implementation: Fall 2016
About This Certificate . . .

Students learn the fundamentals of electronics, starters, ignition, and charging systems, air conditioning, brakes, suspension and steering, cooling and heating systems, safety, technical math, use of technical manuals, basic management skills, written and oral communication skills, and leadership skills. Advanced coursework includes an in-depth study of internal combustion engine disassembly, repair, reassembly, diagnosis and troubleshooting, suspension systems, and alignment and wheel balance. Career options include light duty automotive/diesel technician, parts and service distributor, industrial sales representative and service manager.

For more information on what you can do with this major, go to http://www.coloradomesa.edu/wccc/programs.html

All CMU certificate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Apply principles of grammar and vocabulary in the documentation required to perform the duties of a repair technician to properly repair vehicles. (Communication Fluency)
2. Apply Mathematical concepts and practices that are required to properly perform vehicle repair competencies to an (ASE) Automotive Service Excellence standard. (Quantitative Fluency)
3. Evaluate evidence discovered during the diagnosis and troubleshooting of vehicles and apply those findings to strategies to properly repair the vehicle. (Critical Thinking)
4. Describe the scope and application of principle features of the field of study, including core practices in the vehicle repair industry. (Specialized Knowledge)
5. Demonstrate mastery of the current terminology in the Transportation Service industry and generate substantially error-free products or processes that define the duties of a repair technician. (Specialized Knowledge)
6. Perform vehicle repair practices that meet or exceed industry standards as defined by (ASE) Automotive Service Excellence. (Applied Learning)
7. Demonstrate personal and professional ethical behavior as applied to the industry. (Applied Learning)
8. Define the legal and ethical standards required of the vehicle repair industry. (Specialized Knowledge)
Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

**DEGREE REQUIREMENTS:**

- 2.00 cumulative GPA or higher in all CMU coursework
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- “C” or better in each course which comprises the area of emphasis or specialization.
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student’s responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student’s faculty advisor and Department Head.

- Additional Expenses – Students entering the program may be required to purchase or have hand tools and appropriate clothing and safety gear with a total cost of approximately $2,500.00. This does not include cost of required textbooks. These costs may vary with student need and brand or quality of tools or equipment purchased. All safety glasses must meet the minimum industry safety standard of Z-87 with side shields.
- Please see faculty advisor for approved electives.
- See the “Undergraduate Graduation Requirements” in the Colorado Mesa University catalog for additional graduation information.

### Technical Certificate: Transportation Services – Light Duty

**Automotive Service** (36-256 Semester Hours)

See the current catalog for a list of courses that fulfill the requirements below.

<table>
<thead>
<tr>
<th>Course No</th>
<th>Title</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Trns</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTC 100</td>
<td>Intro to Transportation Services</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 101</td>
<td>Vehicle Service &amp; Inspection</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 110</td>
<td>Engine Fundamentals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 130</td>
<td>Electrical Fundamentals</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 140</td>
<td>Drive Train Fundamentals</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 160</td>
<td>Electronic Control Systems/Electrical II</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 170</td>
<td>Chassis Fundamentals</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 171</td>
<td>Brakes I System Fundamentals</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 175</td>
<td>Brakes II</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 180</td>
<td>Fuel System Fundamentals</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 190</td>
<td>Climate Control Fundamentals</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Choose 13 semester hours from Restricted Electives:**

- TSTA 215 Manual Drive Train (4)
- TSTA 247 Automatic Drive Train Service (4)
- TSTA 140 Job Shop (4)
- TSTA 265 Engine Control Services (2)
- TSTA 170 Practical Application (4)
- TSTA 267 Body and Chassis Controls (2)
- TSTA 289 Alternative Fueled Vehicles (2)
- WELD 151 Introduction To Welding (3)
- TSTA 275 Alignment and Suspension Service (2)
- TSTG 195 Climate Control Services (2)
- TSTA 287 Engine Performance and Emissions (2)
- TSTG 220 Industry Employment Practices (3)
- TSTA 389 Alternative Fueled Vehicles (2)
- TSTG 240 Advanced Job Shop (4)
- TSTA 289 Gas Engine Reconditioning (4)
- TSTA 270 Advanced Practical Applications (4)
- TSTD 265 Diesel Engine Controls (3)
- TSTG 150 Fluid Power (3)
SUGGESTED COURSE SEQUENCING FOR THE TECHNICAL CERTIFICATE
WITH A PROGRAM OF STUDY IN TRANSPORTATION SERVICES,
SPECIALIZATION IN AUTOMOTIVE SERVICE

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student’s responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTC 100</td>
<td>42</td>
</tr>
<tr>
<td>TSTC 101</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 110</td>
<td>1</td>
</tr>
<tr>
<td>TSTC 130</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 160</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 170</td>
<td>42</td>
</tr>
<tr>
<td>MATH 107</td>
<td>3</td>
</tr>
<tr>
<td>TSTG 120</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 171</td>
<td>2</td>
</tr>
<tr>
<td>TSTG 175</td>
<td>2</td>
</tr>
<tr>
<td>TSTA/D/G</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTC 140</td>
<td>1</td>
</tr>
<tr>
<td>TSTC 130</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 160</td>
<td>2</td>
</tr>
<tr>
<td>TSTG 135</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 101</td>
<td>3</td>
</tr>
<tr>
<td>CADT 101</td>
<td>1</td>
</tr>
<tr>
<td>TSTC 171</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 190</td>
<td>1</td>
</tr>
<tr>
<td>TSTC 180</td>
<td>1</td>
</tr>
<tr>
<td>TSTG 150</td>
<td>3</td>
</tr>
<tr>
<td>TSTA/D/G</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>122</td>
</tr>
<tr>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

POLICIES:
1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates. You must turn in your “Intent to Graduate” form to the Registrar’s Office by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December.
3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar’s Office. (Students cannot handle the forms once the advisor signs.)
4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your “Intent to Graduate” does not automatically move to a later graduation date.
5. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).
6. NOTE: Students should consult the Financial Aid Office for eligibility requirements for undergraduate and graduate certificates.
Transportation Services-Diesel Tech: 1342

Degree Type: AAS

Revision to program sheet: Yes ☑ No ☐

Description of modification:
Credit Hours; Sequencing

Justification:
   National Automotive Technician Education Foundation (NATEF) 2013 revised standards for program accreditation requires restructuring program content.

Revision to SLOs: Yes ☐ No ☑

Other changes: Yes ☐ No ☑

Discussions with affected departments: NA

Proposed by: Eric Keith Wright

Director of Teacher Education Signature:

Expected Implementation: Fall 2016
About This Emphasis . . .

In the Associate of Applied Science degree with a major in Transportation Services and emphasis in Diesel Technology, students learn the fundamentals of electronics, starters, ignition, and charging systems; air conditioning, cooling and heating systems; safety; technical math; use of technical manuals; basic management skills; written and oral communication skills; and leadership. Advanced coursework includes an in-depth study of internal combustion engine disassembly, repair, reassembly, diagnosis and troubleshooting; suspension systems; and alignment and wheel balance. The diesel technology emphasis concentrates on on-road trucks and light duty diesel-powered vehicles. Students will be prepared for careers as diesel technicians, parts and service distributors, industrial sales representatives, service managers, and business owners in the transportation services industry.

For more information on what you can do with this major, go to http://www.coloradomesa.edu/wccc/programs.html

All CMU associate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Apply principles of grammar and vocabulary in the documentation required to perform the duties of a repair technician to properly repair vehicles. (Communication Fluency)
2. Apply Mathematical concepts and practices that are required to properly perform vehicle repair competencies to an (ASE) Automotive Service Excellence standard. (Quantitative Fluency)
3. Evaluate evidence discovered during the diagnosis and troubleshooting of vehicles and apply those finding to strategies to properly repair the vehicle. (Critical Thinking)
4. Describe the scope and application of principle features of the field of study, including core practices in the vehicle repair industry. (Specialized Knowledge)
5. Demonstrate mastery of the current terminology in the Transportation Service industry and generate substantially error-free products or processes that define the duties of a repair technician. (Specialized Knowledge)
6. Perform vehicle repair practices that meet or exceed industry standards as defined by (ASE) Automotive Service Excellence. (Applied Learning)
7. Demonstrate personal and professional ethical behavior as applied to the industry. (Applied Learning)
8. Define the legal and ethical standards required of the vehicle repair industry. (Specialized Knowledge)
DEGREE REQUIREMENTS:

-  **64.29 semester hours total** (A minimum of 16 taken at CMU in no fewer than two semesters).
-  2.00 cumulative GPA or higher in all CMU coursework and a “C” or better must be achieved in coursework toward major content area.
-  Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
-  A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student’s responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student’s faculty advisor and Department Head.
-  When filling out the program sheet a course can be used only once. See the “Undergraduate Graduation Requirements” in the catalog for additional graduation information.

ESSENTIAL LEARNING REQUIREMENTS (Minimum 15 semester hours) See the current catalog for a list of courses that fulfill the requirements below. If a course is on the Essential Learning list of options and a requirement for your major, you must use it to fulfill the major requirement and make a different selection within the Essential Learning requirement. The Essential Learning capstone course and co-requisite Essential Speech course (required for bachelor’s degrees) cannot be used as options for the below requirements.

<table>
<thead>
<tr>
<th>Course No</th>
<th>Title</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Tmrs</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Communication (6 semester hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 111 English Composition</td>
</tr>
<tr>
<td>ENGL 112 English Composition</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>ENGL 111 English Composition and</td>
</tr>
<tr>
<td>SPCH 101 Interpersonal Communication or</td>
</tr>
<tr>
<td>SPCH 102 Speechmaking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mathematics: MATH 107 Career Mathematics or higher (Minimum 3 semester hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Science, Natural Science, Fine Arts or Humanities, Fine Arts, or Humanities (Minimum 6 semester hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

*Please see your advisor for requirements specific to this program.

---

Course No Title Sem hrs Grade Term/Tmrs

WELLNESS REQUIREMENT (2 semester hours)

KINE 100 Health and Wellness 1 | | |
KINA 1 | 1 | |

ASSOCIATE OF APPLIED SCIENCE: TRANSPORTATION SERVICES – DIESEL TECHNOLOGY COURSE REQUIREMENTS (5452 semester hours)

Required Courses: (23 semester hours)

<table>
<thead>
<tr>
<th>Course No</th>
<th>Title</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Tmrs</th>
</tr>
</thead>
</table>

TSTC 100 Intro to Transportation Services 2
TSTC 101 Vehicle Service and Inspection 24
TSTC 110 Engine Fundamentals 1
TSTC 130 Electrical Fundamentals 1
TSTC 140 Drive Train Fundamentals 1
TSTC 160 Electronic Control Systems Electrical II 2
TSTC 170 Chassis Fundamentals 4
TSTC 171 Brake System Fundamentals Brakes II 2
TSTC 180 Fuel System Fundamentals TSTG 175 Brakes II 2
TSTC 190 Climate Control Fundamentals TSTG 195 Climate Control Service 4
TSTG 120 Industrial Safety Practices 4
TSTG 150 Fluid Power 3
TSTG 220 Industry Employment Practices Workplace Skills 3

TSTG 135 Starting and Charging Systems 2

Choose 29-156 credit hours from list below.

TSTD 287 Engine Performance and Emissions 23
TSTD 289 Alternative Fueled Vehicles 2
TSTD 177 Air Systems Repair and Service 2
TSTD 215 Diesel Engine Reconditioning 5
TSTD 265 Diesel Engine Controls 3
TSTD 275 Heavy Duty Suspension 2
WELD 151 Introduction to Welding 3
TSTD 285 Diesel Fuel Injection 2
TSTG 115 Gas Engine Reconditioning 4
TSTG 135 Electrical Component Repair 2
TSTG 140 Job Shop 4
TSTG 170 Practical Application 4
TSTG 175 Hydraulic Brake Service 2
TSTG 195 Climate Control Service 2
TSTG 240 Advanced Job Shop 4
TSTG270 AdvancedPracticalApplications 4
**Additional expenses** – Students entering the program may be required to purchase or have hand tools and appropriate clothing and safety gear with a total cost of approximately $2500.00. This does not include cost of required textbooks. These costs may vary with student need and brand or quality of tools or equipment purchased. All safety glasses must meet the minimum industry safety standard of Z-87 with side shields.

**SUGGESTED COURSE SEQUENCING FOR THE ASSOCIATE OF APPLIED SCIENCE WITH AN EMPHASIS IN TRANSPORTATION SERVICES – DIESEL TECHNOLOGY**

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student’s responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTC 100 Introduction to Transportation Services</td>
<td>42</td>
</tr>
<tr>
<td>TSTC 101 Vehicle Service and Inspection</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 110 Engine Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>TSTC 171 Brakes I</td>
<td>2</td>
</tr>
<tr>
<td>TSTG 175 Brakes II</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 130 Electrical Fundamentals</td>
<td>2</td>
</tr>
<tr>
<td>TSTG 175 Electronic Control Systems</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 170 Chassis Fundamentals</td>
<td>42</td>
</tr>
<tr>
<td>TSTG 120 Industrial Safety Practices</td>
<td>3</td>
</tr>
<tr>
<td>MATH 107 Career Mathematics or higher</td>
<td>3</td>
</tr>
<tr>
<td>TSTA/G/D Electives</td>
<td>3</td>
</tr>
<tr>
<td>Electives TSTA/G/D</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTC 101 Vehicle Service and Inspection</td>
<td>3</td>
</tr>
<tr>
<td>TSTC 130 Electrical I</td>
<td>2</td>
</tr>
<tr>
<td>TSTG 175 Starting and Charging Systems</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 160 Electrical II</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 140 Drive Train Fundamentals</td>
<td>1</td>
</tr>
<tr>
<td>TSTC 171 Brake System Fundamentals</td>
<td>2</td>
</tr>
<tr>
<td>TSTC 180 Fuel System Fundamentals</td>
<td>1</td>
</tr>
<tr>
<td>TSTC 190 Climate Control Fundamentals</td>
<td>1G</td>
</tr>
<tr>
<td>195 Climate Control Service</td>
<td>4</td>
</tr>
<tr>
<td>TSTG 150 Fluid Power</td>
<td>3</td>
</tr>
<tr>
<td>TSTA/G/D Electives</td>
<td>6</td>
</tr>
<tr>
<td>ENGL 111 English Composition</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

### SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential Learning Soc/Beh Sci., Humanities, Speech</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 112 or SPCH 101 or SPCH 101</td>
<td>3</td>
</tr>
<tr>
<td>KINE 100 Health and Wellness</td>
<td>1</td>
</tr>
<tr>
<td>TSTG 135 Starting and Charging Systems</td>
<td>2</td>
</tr>
<tr>
<td>TSTG 220 Workplace Skills</td>
<td>3</td>
</tr>
<tr>
<td>TSTA/G/D Electives</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTG 220 Industry Employment Practices</td>
<td>3</td>
</tr>
<tr>
<td>TSTA/G/D Electives</td>
<td>109</td>
</tr>
<tr>
<td>KINE 100 Health and Wellness</td>
<td>1</td>
</tr>
<tr>
<td>KINA xxx Activity</td>
<td>1</td>
</tr>
<tr>
<td>Essential Learning Soc/Beh Sci., Humanities, Speech</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>165</strong></td>
</tr>
</tbody>
</table>

**POLICIES:**

1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates. You must turn in your “Intent to Graduate” form to the Registrar’s Office by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December.
3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar’s Office. (Students cannot handle the forms once the advisor signs.)

4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your “Intent to Graduate” does not automatically move to a later graduation date.

5. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).
Transportation Services-Diesel Mechanics: 1347

Degree Type: Tech Cert

Revision to program sheet: Yes ☑ No ☐
Description of modification:
Credit Hours; Sequencing

Justification:
National Automotive Technician Education Foundation (NATEF) 2013 revised standards for program accreditation requires restructuring program content.

Revision to SLOs: Yes ☐ No ☑
Other changes: Yes ☐ No ☑

Discussions with affected departments: NA

Proposed by: Eric Keith Wright
Director of Teacher Education Signature:
Expected Implementation: Fall 2016
2015-2016 2016-2017 PETITION/PROGRAM SHEET
Award: Technical Certificate
Program of Study: Transportation Services
Specialization: Diesel Mechanics

About This Certificate . . . Students learn the fundamentals of electronics, starters, ignition, and charging systems; air conditioning, cooling and heating systems; safety; technical math; use of technical manuals; basic management skills; written and oral communication skills; and leadership. Advanced coursework includes an in-depth study of internal combustion engine disassembly, repair, reassembly, diagnosis and troubleshooting; suspension systems; and alignment and wheel balance. The diesel mechanics specialization concentrates on on-road trucks and light duty diesel-powered vehicles. Career options include automotive/diesel technician, parts and service distributor, industrial sales representative, and service manager.

For more information on what you can do with this major, go to http://www.coloradomesa.edu/wccc/programs.html

All CMU certificate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Apply principles of grammar and vocabulary in the documentation required to perform the duties of a repair technician to properly repair vehicles. (Communication Fluency)
2. Apply Mathematical concepts and practices that are required to properly perform vehicle repair competencies to an (ASE) Automotive Service Excellence standard. (Quantitative Fluency)
3. Evaluate evidence discovered during the diagnosis and troubleshooting of vehicles and apply those finding to strategies to properly repair the vehicle. (Critical Thinking)
4. Describe the scope and application of principle features of the field of study, including core practices in the vehicle repair industry. (Specialized Knowledge)
5. Demonstrate mastery of the current terminology in the Transportation Service industry and generate substantially error-free products or processes that define the duties of a repair technician. (Specialized Knowledge)
6. Perform vehicle repair practices that meet or exceed industry standards as defined by (ASE) Automotive Service Excellence. (Applied Learning)
7. Demonstrate personal and professional ethical behavior as applied to the industry. (Applied Learning)
8. Define the legal and ethical standards required of the vehicle repair industry. (Specialized Knowledge)

NAME: ___________________________________________ STUDENT ID #: ______________________

LOCAL ADDRESS AND PHONE NUMBER: ____________________________ ( ) ______________________

I, (Signature) ____________________________________________, hereby certify that I have completed (or will complete) all the courses listed on the Program Sheet. I have read and understand the policies listed on the last page of this program sheet. I further certify that the grade listed for those courses is the final course grade received except for the courses in which I am currently enrolled and the courses which I complete next semester. I have indicated the semester in which I will complete these courses.

_____________________________ 20 __________
Signature of Advisor

_____________________________ 20 __________
Signature of Department Head

_____________________________ 20 __________
Signature of Registrar
Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

**DEGREE REQUIREMENTS:**
- 2.00 cumulative GPA or higher in all CMU coursework
- “C” or better in each course which comprises the area of emphasis or specialization.
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student’s responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student’s faculty advisor and Department Head.
- Additional Expenses – Students entering the program may be required to purchase or have hand tools and appropriate clothing and safety gear with a total cost of approximately $2,500.00. This does not include cost of required textbooks. These costs may vary with student need and brand or quality of tools or equipment purchased. All safety glasses must meet the minimum industry safety standard of Z-87 with side shields.
- Please see faculty advisor for approved electives.
- See the “Undergraduate Graduation Requirements” in the catalog for additional graduation information.

### Technical Certificate: Transportation Services – Diesel Mechanics

**(36-32 Semester Hours)** See the current catalog for a list of courses that fulfill the requirements below.

<table>
<thead>
<tr>
<th>Course No</th>
<th>Title</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Trns</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTC 100</td>
<td>Intro to Transportation Services</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 101</td>
<td>Vehicle Service &amp; Inspection</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 110</td>
<td>Engine Fundamentals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 130</td>
<td>Electrical Fundamentals</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 140</td>
<td>Drive Train Fundamentals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 160</td>
<td>Electrical Control Fundamentals</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 170</td>
<td>Chassis Fundamentals</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 171</td>
<td>Brake System Fundamentals/Brakes</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTC 180</td>
<td>Fuel System Fundamentals/TSTG 175 Brakes</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Choose 4-5 semester hours from:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Trns</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTA 245 Manual Drive Trains (4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTA 265 Engine Control Services (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTA 267 Body and Chassis Controls (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTA 287 Engine Performance and Emissions (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTG 135 Electrical Component Repair (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTA 289 Alternative Fueled Vehicles (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTG 140 Job Shop (4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTD 177 Air Systems Repair and Service (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTG 170 Practical Application (4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTD 215 Diesel Engine Reconditioning (5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WELD 151 Introduction to Welding (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Trns</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTC 190 Climate Control Fundamentals</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTG 195 Climate Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 107 Career Mathematics</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTG 120 Industry Safety Practices</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTG 150 Fluid Power</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Restricted Electives, Choose 13 semester 5 semester hours from list below. (Please see advisor when selecting electives).

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Trns</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTG 175 Hydraulic Brake Service (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTD 265 Diesel Engine Controls (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTD 195 Climate Control Service (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTD 275 Heavy Duty Suspension (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTG 240 Advanced Job Shop (4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTD 135 Charging and Starting Systems (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTD 285 Diesel Fuel Injection (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTG 270 Advanced Practical Applications (4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSTD 220 Industry Employment Practices (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WELD 151 Introduction to Welding (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SUGGESTED COURSE SEQUENCING FOR THE TECHNICAL CERTIFICATE
WITH A PROGRAM OF STUDY IN TRANSPORTATION SERVICES,
SPECIALIZATION IN DIESEL MECHANICS

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student’s responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

First Semester  Hours
TSTC 100  Introduction to Transportation Services  12
TSTC 101  Vehicle Service and Inspection  2
TSTC 110  Engine Fundamentals  4
TSTC 130  Electrical Fundamentals  2
TSTC 160  Electronic Control Fundamentals  2
TSTC 170  Chassis Fundamentals  12
TSTC 171  Brakes I  2
TSTG 175  Brakes II  2
TSTG 120  Industry Safety Practices  12
Electives  3
MATH 107  Career Mathematics  3
168

Second Semester  Hours
TSTC 101  Vehicle Service and Inspection  23
TSTC 130  Electrical Fundamentals  2
TSTC 160  Electronic Control Fundamentals  2
TSTC 140  Drive Train Fundamentals  1
TSTC 171  Brake System Fundamentals  2
TSTC 190  Climate Control Fundamentals  1
TSTC 180  Fuel System Fundamentals  1
TSTG 150  Fluid Power  3
TSTG 195  Climate Control Service  4
TSTAG/D  Electives  402
168

POLICIES:
1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates. You must turn in your “Intent to Graduate” form to the Registrar’s Office by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December.
3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar’s Office. (Students cannot handle the forms once the advisor signs.)
4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your “Intent to Graduate” does not automatically move to a later graduation date.
5. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).
6. NOTE: Students should consult the Financial Aid Office for eligibility requirements for undergraduate and graduate certificates.
Department:  WCCC (Viticulture)

Program Additions

Viticulture and Enology

Degree Type: AAS
Abbreviated Name:  Viticulture and Enology

Proposed by:  Benjamin R. Keefer

Expected Implementation:  Fall 2016
a. Identifying information

Department: **WCCC**

If new department, please enter name:

Program: **AAS**

Degree type: **Viticulture and Enology**

Program/concentration Name: **Viticulture and Enology**

Abbreviated program/concentration (max 30 characters): **Viticulture and Enology**

PROPOSED AND PREPARED BY:

Name: **Benjamin R. Keefer, Ph.D, Assistant Technical Professor**

Date: **8/17/2015**

Email: keefer@coloradomesa.edu

Phone: **970-255-2754**

Additional required information for each proposal for a program addition: (see Section IV.F of Curriculum Manual)

1. Complete items **b** through **m** on the following pages.

2. Complete the three CDHE tables at the end of this document. These tables MUST be included for all new program proposals. If any of the fields do not apply, please enter NA or other explanation.

3. Discuss the proposal with all departments affected by the program.

Enter NA or dates/outcomes of such discussions

4. Submit complete program sheet. The most up-to-date program sheet templates are available as Word documents at R:\Curriculum\Program Sheets for Curriculum Program Modifications.

5. Submit this completed form to the Library’s Curriculum Committee representative and the Director of Financial Aid a week prior to the published proposal submission deadline.

6. Obtain departmental approval according to department-specific procedures.

**Implementation Deadlines**

Program additions and modifications approved at the September-February curriculum meetings are generally implemented the following academic year. See Section II.D of the Curriculum Manual. Exceptions are rare and granted only in extenuating circumstances. To request a different effective date, the academic department head should contact the curriculum committee chair. (Note: in the approval process only the VPAA will ultimately approve or deny the request.)

**Reviewed by Department’s Curriculum Committee Representative:**

Name: **Carolyn Ferreira-Lillo**

Date: **12/1/2015**

**Approved by Department Head:**

Name: **Christine Murphy**

Date: **12/1/2015**

**Approved by Director of Teacher Education (Required for Teaching Programs):**

Name: 

Date: 

Submit to the chair of the appropriate curriculum committee.
b. Demonstration of compliance with CMU requirements related to student learning outcomes (SLOs):
   1) Identify program student learning outcomes (SLOs)
   2) Identify linkage of program SLOs to institutional SLOs
   3) Illustrate relationship of SLOs to proposed curriculum using curriculum map format
   4) Identify planned assessments for the program SLO.

See Attachment A

c. Program goals as they pertain to Colorado Mesa University's goals and objectives and Colorado Mesa University's Role and Mission.

The goals of the proposed viticulture and enology program align with the following Colorado Mesa University Institutional Strategic Goals as described below:

CMU Strategic Goal 1: To raise the level of educational attainment in the 14-county region through the delivery of a wide array of quality programs that respond to regional needs at differing locations, formats, and times by developing Western Colorado Community College as an institution of access, affordability, and excellence that compliments Colorado Mesa University.

   The proposed AAS in Viticulture and Enology addresses the present demands for a skilled workforce in the industry, as well as prepares individuals to engage in the industry as employees, managers and/or business owners. Through the use of highly-qualified faculty, the program will develop a regional reputation for excellence.

CMU Strategic Goal 4: To actively engage students of all backgrounds in on- and off-campus activities that broaden their educational experiences and enhance their successes.

   Students enrolled in the proposed AAS in Viticulture and Enology will be encouraged to participate in the student organization for agriculture, the Aggies Club. Through this participation, V&E students will be provided opportunities to participate in leadership activities and industry-related conferences.

CMU Strategic Goal 5: To expand the University's use of technology as it contributes to an exceptional student learning environment and broadened educational delivery.

   Topic-appropriate courses will be made available using distance-learning technologies to expand access to the program to place-bound students in the region.

CMU Strategic Goal 6: To strengthen Colorado Mesa's brand perception and awareness to support and enhance the long term stature, growth and competitive position of the institution.

   As the only formal degree program in viticulture and enology in the state of Colorado, the proposed V&E program will help strengthen CMU’s and WCCC’s reputation for unique, high-quality educational programming.
d. Program strengths, special features, innovations, and/or unique elements.

The proposed AAS in Viticulture and Enology will be unique in a variety of ways, beginning with the fact that it is the only associate degree in viticulture and enology available in the state of Colorado, and is located in the major grape-growing region of the state. Due to this location, students will learn in an environment that is surrounded by active viticulture and wine-making businesses. Being offered through the Western Colorado Community College division of CMU, the program will be readily accessible to all qualified students, and can be completed within a two-year timeframe. Through its commitment to applied-learning, the V&E program will provide the student the opportunity to further develop their knowledge through the application of modern viticulture and wine-making practices.

e. External agencies, such as program accreditations, professional associations, as well as licensing requirements that have helped shape the program’s curriculum (i.e., effects such as length of the program, on program content or mode of delivery, etc.). Do faculty members anticipate seeking program accreditation at appropriate date?

The curriculum for the proposed AAS in Viticulture and Enology was developed with the consultation of selected grape growers and winemakers, Dr. Horst Caspari, the Colorado State University research specialist in Viticulture, and Dr. Stephen Menke, the Colorado State University research specialist in Enology. The Directors from the two wine-related agencies in Colorado, the Colorado Wine Industry Board, and the Colorado Association of Viticulture and Enology, assisted in identifying information and disseminating program research questionnaires to their respective membership.

Presently, there are no formal accreditation organizations for viticulture and enology.

f. Program admissions requirements (if any beyond admission to institution).

There are no additional admission requirements beyond those of the institution.

g. Rationale and justification for the program demonstrating the demand, as evidenced by:

1. Employer need/demand as demonstrated by evidence such as:
   a. identification of several potential employers of program graduates;
   b. projected regional and/or statewide need for graduates from current labor market analyses and/or future workforce projections/studies (potential source: www.occsupplydemand.org/)
   c. surveys made by external agencies;
   d. letters of direct employer support may be used. Include letters indicating the availability of positions for graduates of the proposed programs, signed by individual in a senior position of authority.

2. Student demand as demonstrated by evidence such as surveys of potential students to answer the question: “what is the student population served by program implementation?”

The investigations behind the decision to propose the AAS in Viticulture and Enology included the following steps and information discovered:

In 2012 and 2013, the Agriculture Program Advisory Committee suggests that a Viticulture and Enology program should be explored based on the rationale of:

- Developing wine industry in the western Colorado, as well as the front range of Colorado.
- Economic study performed by Dawn Thilmany, Colorado State University, in 2013 suggests:
  o Coloradoans consume more wine than national average
  o Colorado wine steady increase in market share (both volume and value) of Colorado wine consumers
  o Challenging business model, with many potential avenues for continued growth
- Successful V&E programs at other community colleges (ex: Walla Walla Community College)

Spring 2014
Meeting with wine and viticulture business representatives on March 5, 2014.
- Discussed concept of a viticulture and enology education program at CMU/WCCC
- Pros: need for more Colorado grape production; potential for industry growth thus more employment or new businesses; potential need for skilled viticulturalists
- Cons: challenging business environment
- Need to assess existing V&E businesses, and potential for students

Fall 2014
Colorado Viticulture and Enology Business/Industry Survey
- Survey was developed (reviewed by Ag Program Advisory Committee and selected area V&E business owners) and administered by Colorado Mesa University, Office of Institutional Research, in summer/fall of 2014. The two major V&E business organizations in the state (Colorado Wine Industry Board, and Colorado Association of Viticulture and Enology) assisted with the dissemination of the survey.
- 22 businesses completed the survey
- Survey results confirmed much of what the Ag Advisory Committee members had assumed:
  o Newer industry, comprised of many small businesses with few employees
  o Most businesses reported difficulty in finding new employees with an education in V&E, with most of the existing employees having no formal education in V&E.
  o Nearly 70% (68.4%) of the businesses reported an interest in contributing time and energy in helping to develop a program.

Spring 2015
Student Interest Survey
- Survey was developed by WCCC Agriculture Program faculty, and administered by Colorado Mesa University, Office of Institutional Research, during the Spring 2015 semester
- Population surveyed were existing CMU students
- 750 students participated in the survey. 245 students (32.7%) responded that they were interested in taking courses in V&E. 121 students indicated an interest in attaining either a certificate or degree in V&E.

Spring/Summer 2015
WCCC Agriculture Program faculty completed a draft curriculum for technical certificates in viticulture or enology, and an AAS degree in viticulture and enology. Curriculum has been reviewed by various Ag Advisory Committee members, viticulture and enology business owners, and Colorado State University V&E specialists. Topics still being investigated include potential faculty that could be available on at least a part-time basis; and equipment and facility needs.

h. Relationship of the proposed program to existing programs on campus and to similar programs within the state, with a rationale reflecting that proposed program demand cannot be met by another program (i.e., program implementation is not an unnecessary duplication)

As of this date, the only formal education sequence in viticulture and enology offered by a college/university in Colorado is at Colorado State University. Colorado State University offers a bachelor of science in Horticulture, with a concentration in Viticulture and Enology. The concentration consists of four courses (two in viticulture
and two in enology), and a total of eight semester credit hours, of instruction specific to viticulture and enology. All four courses are upper division (300 and 400-level). Beyond the concentration offered by CSU, there are no degree, or certificate programs in Viticulture and Enology offered in the state of Colorado.

The proposed AAS in Viticulture and Enology, being offered through the Western Colorado Community College division of Colorado Mesa University, is physically located in the center of the state’s wine grape production area. The program will provide an educational sequence that is unique in Colorado, as it provides a comprehensive educational sequence specific to the field of study, and it is available to entry-level college/university students.

i. Curriculum, including identification of new courses and the numbers, names, and sequencing of all courses, as well as demonstration of compliance with CMU's Credit Hour Policy as required by the U.S. Department of Education and articulated by the Higher Learning Commission;

See 2015-16 PETITION/PROGRAM SHEET; AAS-Viticulture and Enology

j. List of faculty and their qualifications. (Is there a need for additional faculty?)

The program will require faculty with the appropriate combination of education and experience in the fields of viticulture, enology, or both. A minimum of a Bachelors degree in a related area of study, a Masters degree is preferred. Faculty must have a level of practical experience necessary for vocational credentialing in viticulture and/or enology.

Viticulture and Enology is a unique area of study. The Agriculture program and its advisory committee have made multiple attempts to identify individuals who would be willing to teach on a part-time basis, with no success to-date. The two primary challenges in securing part-time faculty include (1) the unique combination of knowledge in viticulture/horticulture and enology, and (2) the applied nature of the program, meaning that the potential instructors are not available to teach the topics when needed due to the fact that they are actively engaged in their own businesses at that time. The Agriculture program, and its advisory committee, have concluded that the addition of a full-time faculty member will be required.

k. Description of learning resources needed for implementation. Scope and quality of library holdings, laboratories, clinical facilities, and technological support as applicable. Department’s recommendations for additions to the Library’s collection.

The proposed program will require a variety of physical resources including general use classroom spaces, and laboratories suitable for the plant and soil sciences. The viticulture curriculum will require a field site suitable for the establishment of an instructional vineyard. Access to a greenhouse, while not required, would be highly desirable. The enology curriculum will require a laboratory space suitable for the fermentation science lab, and wine-making courses. The enology space should include a space for the storage of fermenting wine that can be secured.

Library holdings should include access to professional journals in viticulture and enology.

l. Intended delivery mode for program. For programs delivering any of its coursework via 1) alternative formats, 2) outsourcing, and/or 3) a consortial relationship, the program proposal must demonstrate compliance with requirements as
specified by the U.S. Department of Education and articulated in the Higher Learning Commission's policies. To demonstrate this compliance, the proposing department must submit a statement from the VPAA's office.

The curriculum will be delivered using classroom lecture formats, supplemented with applied-learning laboratories.

m. For Professional, Technical or Other Programs, the justification must include:
   (1) Rationale for program to be in the PTO category.
   (2) Statement as to how the curriculum aligns to the requirements or recommendations of the nationally recognized accrediting, licensing, certifying or professional organization.
   (3) Rationale for the program to exceed 60 credit hours, if applicable.
   (4) Rationale for prescribing Applied Studies courses, if applicable.
   (5) Explanation as to how a transfer student with an AA degree in the discipline of that program can graduate by completing only an additional 60 hours.

Not applicable.
TABLE 1: ENROLLMENT PROJECTIONS

Name of Program: ___________Viticulture and Enology___________

Degree Title ___________Viticulture and Enology__________

Name of Institution: ___________Colorado Mesa University_________

DEFINITIONS:

Academic year is the period beginning July 1 and concluding June 30.

Headcount projections represent an unduplicated count of those students officially admitted to the program and enrolled at the institution during the academic year.

FTE is defined as the full-time equivalent number of those students majoring in the program, regardless of the classes enrolled, during the academic year.

Program graduate is defined as a student who finishes all academic program requirements and graduates with a formal award within a particular academic year.

SPECIAL NOTES:

To calculate the annual headcount enrollment, add new enrollees to the previous year headcount and subtract the number who graduated in the preceding year. Adjust by the anticipated attrition rate.

To calculate FTE, multiply the number of students times the projected number of credit hours degree seeking students will be typically enrolled in per year and divide by 30.

The data in each column is the annual unduplicated number of declared program majors. Since this table documents program demand, course enrollments are not relevant and shall not be included in the headcount or FTE data.

<table>
<thead>
<tr>
<th></th>
<th>Yr 1</th>
<th>Yr 2</th>
<th>Yr 3</th>
<th>Yr 4</th>
<th>Yr 5</th>
<th>Full Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-state Headcount</td>
<td>5</td>
<td>14</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>1-b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-of-State Headcount</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Headcount</td>
<td>7</td>
<td>17</td>
<td>26</td>
<td>31</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>3-a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-state FTE</td>
<td>5.5</td>
<td>14</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>3-b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-of-State FTE</td>
<td>2.2</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program FTE</td>
<td>7.7</td>
<td>17</td>
<td>26</td>
<td>31</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Graduates</td>
<td>5</td>
<td>12</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

Signature of Governing Board Officer ___________________ Date __________
**TABLE 2: PHYSICAL CAPACITY ESTIMATES**

Name of Program: _______ Viticulture and Enology _______

Name of Institution: _______ Colorado Mesa University _______

Purpose: This table documents the physical capacity of the institution to offer the program and/or the plan for achieving the capacity. Complete A or B.

**Part A**

I certify that this proposed degree program can be fully implemented and accommodate the enrollment projections provided in this proposal without requiring additional space or renovating existing space during the first five years.

_______________________________________________________ ___________________
Governing Board Capital Construction Officer   Date

**Part B**

<table>
<thead>
<tr>
<th>TYPE OF SPACE</th>
<th>ASSIGNABLE SQUARE FEET</th>
<th>COLUMN 1</th>
<th>COLUMN 2</th>
<th>COLUMN 3</th>
<th>COLUMN 4</th>
<th>COLUMN 5</th>
<th>COLUMN 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom</td>
<td>800</td>
<td>Immed</td>
<td>Future</td>
<td>Immed</td>
<td>Future</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional Lab</td>
<td>800</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offices</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special/General Use</td>
<td>2 acres</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>3000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

* Capital Construction Fund (CCF), Research Building Revolving Fund (RBRF), Gift (GIFT), Grant (GR), Auxiliary Fund (AUX)

Attach a narrative describing the institutional contingency plan that addresses the space requirements of the proposed program or alternative delivery options, in the event that the request for capital construction or renovation is not approved.

_______________________________________________________ ___________________
Governing Board Capital Construction Officer   Date

Approved Policy    I-B-10   June 5, 2003
# Table 3 – Projected Expense and Revenue Estimates

All cost and revenue projections should be in constant dollars (do not include an inflation factor).

<table>
<thead>
<tr>
<th>Operating Expenses:</th>
<th>ESTIMATED AMOUNT IN DOLLARS (PV)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 1</td>
</tr>
<tr>
<td>1 Faculty</td>
<td>$50,000</td>
</tr>
<tr>
<td>2 Financial Aid specific to program</td>
<td></td>
</tr>
<tr>
<td>3 Instructional Materials</td>
<td>$10,000</td>
</tr>
<tr>
<td>4 Program Administration</td>
<td></td>
</tr>
<tr>
<td>5 Rent/Lease</td>
<td></td>
</tr>
<tr>
<td>6 Other Operating Costs</td>
<td></td>
</tr>
<tr>
<td>7 Total Operating Expenses</td>
<td></td>
</tr>
<tr>
<td>Program Start-Up Expenses</td>
<td></td>
</tr>
<tr>
<td>8 Capital Construction</td>
<td></td>
</tr>
<tr>
<td>9 Equipment Acquisitions</td>
<td>$15,000</td>
</tr>
<tr>
<td>10 Library Acquisitions</td>
<td></td>
</tr>
<tr>
<td>11 Total Program Start-Up Exp.</td>
<td></td>
</tr>
<tr>
<td>TOTAL PROGRAM EXPENSES</td>
<td></td>
</tr>
<tr>
<td>Enrollment Revenue</td>
<td></td>
</tr>
<tr>
<td>12 General Fund: State Support</td>
<td>$12,375</td>
</tr>
<tr>
<td>13 Cash Revenue: Tuition</td>
<td>$67,803</td>
</tr>
<tr>
<td>14 Cash Revenue: Fees</td>
<td></td>
</tr>
<tr>
<td>Other Revenue</td>
<td></td>
</tr>
<tr>
<td>15 Federal Grants</td>
<td></td>
</tr>
<tr>
<td>16 Corporate Grants/Donations</td>
<td></td>
</tr>
<tr>
<td>17 Other fund sources *</td>
<td></td>
</tr>
<tr>
<td>18 Institutional Reallocation **</td>
<td></td>
</tr>
<tr>
<td>TOTAL PROGRAM REVENUE</td>
<td></td>
</tr>
</tbody>
</table>

** If revenues are projected in this line, please attach an explanation of the specific source of the funds. If reallocated, the specific departments and the impact the dollars will have on the departments that will provide the reallocated dollars.

---

Signature of Governing Board Financial Officer    Title    Date

Approved Policy    I-B-12    June 5, 2003

111 of 156
(b1) Identify program student learning outcomes (SLOs)

VITICULTURE AND ENOLOGY, PROGRAM-LEVEL STUDENT LEARNING OUTCOMES:

<table>
<thead>
<tr>
<th>Program Outcomes</th>
<th>Communication</th>
<th>Computational</th>
<th>Critical Thinking</th>
<th>Specialized Knowledge</th>
<th>Applied Learning</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viticulture and Enology</td>
<td>Students will have the ability to accurately communicate information in written form (up to two pages), as well as be proficient in the use of electronic communication (email, etc.).</td>
<td>Students will have the ability to make calculations that are commonly used in the viticulture and enology industry.</td>
<td>Students will demonstrate the ability to make and defend managerial decisions that integrate specialized knowledge in the viticulture/enology sciences, and related business practices.</td>
<td>Students will understand not only the general plant and fermentation sciences, they will be proficient in their applications related to viticulture and enology.</td>
<td>Students will be proficient in the application of commonly accepted practices in viticulture and enology.</td>
<td>Students will demonstrate professional behavior through their understanding and application of practices that promote the safety of the V&amp;E workforce, as well as the food safety standards that support the production of a quality product for the consumer.</td>
</tr>
</tbody>
</table>
(b2) Identify linkage of program SLOs to institutional SLOs

**INSTITUTIONAL-LEVEL STUDENT LEARNING OUTCOMES, and**
**PROGRAM-LEVEL STUDENT LEARNING OUTCOMES for VITICULTURE AND ENOLOGY:**

<table>
<thead>
<tr>
<th>Institutional SLOs</th>
<th>The CMU/WCCC associate degree graduate will be able to:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Locate, gather and organize evidence on an assigned topic addressing a course or discipline-related question or a question of practice in a work or community setting.</td>
</tr>
<tr>
<td></td>
<td>2. Use program-level mathematical concepts and methods to understand, analyze, and explain issues in quantitative terms.</td>
</tr>
<tr>
<td></td>
<td>3. Make and defend claims in a well-organized, professional document and/or oral presentation that is appropriate for a specific audience.</td>
</tr>
<tr>
<td></td>
<td>4. Identify and gather the information/data relevant to the essential question, issue and/or problem and develop informed conclusions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communication</th>
<th>Computational</th>
<th>Critical Thinking</th>
<th>Specialized Knowledge</th>
<th>Applied Learning:</th>
<th>Other:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Department:</strong></td>
<td><strong>WCCC – BASIS SLOs</strong></td>
<td>Apply business communication using listening, verbal and written, and electronic forms that are needed for entry level employment</td>
<td>Apply Mathematical and applied physics concepts for industry to meet employment requirements</td>
<td>Research, evaluate, synthesize and apply information/data relevant to business, sciences, and technical careers</td>
<td>Demonstrate a knowledge of terminology, symbols, business practices, and principles and application of associated technical skills</td>
</tr>
<tr>
<td><strong>Program:</strong></td>
<td><strong>Viticulture and Enology SLOs</strong></td>
<td>Students will have the ability to accurately communicate information in written form (up to two pages), as well as be proficient in the use of electronic communication (email, etc.). Related Institutional SLO: 1, 3</td>
<td>Students will have the ability to make calculations that are commonly used in the viticulture and enology industry. Related Institutional SLO: 2</td>
<td>Students will demonstrate the ability to make and defend managerial decisions that integrate specialized knowledge in the viticulture/enology sciences, and related business practices. Related Institutional SLO: 4</td>
<td>Students will understand not only the general plant and fermentation sciences, they will be proficient in their applications related to viticulture and enology. Related Institutional SLO: 4</td>
</tr>
</tbody>
</table>
Institutional SLO: 1
the production of a quality product for the consumer.
Related Institutional SLO: 1
(b3) Illustrate relationship of SLOs to proposed curriculum using curriculum map format.

**RELATIONSHIP OF PROGRAM-LEVEL STUDENT LEARNING OUTCOMES and CURRICULUM:**

<table>
<thead>
<tr>
<th>Program SLOs</th>
<th>Communication</th>
<th>Computational</th>
<th>Critical Thinking</th>
<th>Specialized Knowledge</th>
<th>Applied Learning</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viticulture and Enology</td>
<td>Students will have the ability to accurately communicate information in written form (up to two pages), as well as be proficient in the use of electronic communication (email, etc.).</td>
<td>Students will have the ability to make calculations that are commonly used in the viticulture and enology industry.</td>
<td>Students will demonstrate the ability to make and defend managerial decisions that integrate specialized knowledge in the viticulture/enology sciences, and related business practices.</td>
<td>Students will understand not only the general agricultural and fermentation sciences, they will be proficient in their applications related to viticulture and enology.</td>
<td>Students will be proficient in the application of commonly accepted practices in viticulture and enology.</td>
<td>Students will demonstrate professional behavior through their understanding and application of practices that promote the safety of the V&amp;E workforce, as well as the food safety standards that support the production of a quality product for the consumer.</td>
</tr>
<tr>
<td>AGRS 100</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 100L</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 101</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>AGRS 106</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 106L</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 130</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>AGRS 130L</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 131</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 131L</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 165</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>AGRS 165L</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 170</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>AGRS 189</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 202</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 205</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 240</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 240L</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>AGRS 245</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>AGRS 245L</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

115 of 156
<table>
<thead>
<tr>
<th>Course</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRS 255</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>AGRS 255L</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 260</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>AGRS 265</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
(b4) Identify planned assessments for the program SLO

COLORADO MESA UNIVERSITY
Program Outcome and Assessment Plan

Program Name: Agriculture
Date: 08/17/2015

<table>
<thead>
<tr>
<th>Program Outcomes</th>
<th>Courses/Educational Strategies</th>
<th>Assessment Method(s)</th>
<th>Time of Data Collection/ Person Responsible</th>
<th>Results of Assessment</th>
<th>Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome #1</td>
<td>Students will have the ability to accurately communicate information in written form (up to two pages), as well as be proficient in the use of electronic communication (email, etc.).</td>
<td>AGRS 100, Practical Crop Production (D)</td>
<td>What: Crop Production Summary</td>
<td>Who: AGRS 100 Faculty</td>
<td>When: Fall and Spring semesters. Assignment due the last week of the semester.</td>
</tr>
</tbody>
</table>
| Outcome #2 | AGRS 205, Farm and Ranch Management (D) | What: Balance Sheet analysis  
How: Student will demonstrate the ability to calculate a Current Ratio, and Debt/Asset Ratio. | Who: AGRS 205 Faculty  
When: Spring semester |
| --- | --- | --- | --- |
| Outcome #3 | AGRS 205, Farm and Ranch Management (A) | What: Integrated Financial Statement Project  
How: Student will create a spreadsheet containing relevant financial statements, and analyses for an agricultural enterprise. | Who: AGRS 205 Faculty  
When: Spring Semester |
| Outcome #4 | AGRS 255, Viticulture Harvest and Post-harvest Management | What: Viticulture Harvest and Post-harvest Management plan  
How: When received via email, the Plan will be reviewed and submitted. | Who: AGRS 255 Faculty  
When: Fall semester |
<table>
<thead>
<tr>
<th>Outcome #5</th>
<th>AGRS 205, Farm and Ranch Management (A)</th>
<th>What: Integrated Financial Statement Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will be proficient in the application of commonly accepted practices in viticulture and enology.</td>
<td></td>
<td>How: Student will create a spreadsheet containing relevant financial statements, and analyses for an agricultural enterprise.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Who: AGRS 205 Faculty</td>
</tr>
<tr>
<td></td>
<td></td>
<td>When: Spring Semester</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome #6</th>
<th>AGRS 189, Summer Viticulture Practicum (A)</th>
<th>What: Summer Viticulture Practicum Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will demonstrate professional behavior through their understanding and application of practices that promote the safety of the V&amp;E workforce, as well as the food safety standards that support the production of a quality product for the consumer.</td>
<td></td>
<td>How: Student will submit a summary of the days/hours and activities that they completed as part of their summer practicum. The student's work ethic and productivity will be evaluated by the faculty in-charge.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Who: AGRS 189 Faculty</td>
</tr>
<tr>
<td></td>
<td></td>
<td>When: Summer semester</td>
</tr>
</tbody>
</table>
About This Major... The Viticulture and Enology curriculum is designed to provide the entrepreneurial and technical skills necessary to manage a profitable, environmentally sound, vineyard and/or winemaking business. Students learn the fundamentals of sustainable viticulture, focusing on cultivars that are suitable for Colorado, as well as the science of fermentation, and the fundamentals of producing and testing wine. Emphasis is placed on entrepreneurial and practical field training. As part of their education, students will participate in the establishment and management of a vineyard, and the production of wine. Graduates are qualified for employment in a variety of positions associated with viticulture and winemaking businesses.

This program will provide the student with an understanding of the viticulture and enology industry, the principles and science underlying operation and control decisions, and financial practices and measures common to the businesses. The graduate will understand the technical aspects of the work, the responsibilities of the work and the importance of safety in this vitally important career.

For more information on what you can do with this major, go to http://www.coloradomesa.edu/wccc/programs.html

All CMU associate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Apply business communication using listening, verbal and written and electronic forms that are needed for entry level employment. (Communication Fluency)
2. Apply mathematical and applied physics concepts for industry to meet employment requirements. (Quantitative Fluency)
3. Research, evaluate, synthesize and apply information/data relevant to business, sciences and technical careers. (Critical Thinking)
4. Demonstrate knowledge of terminology, symbols, business practices, and principles and application of technical skills. (Specialized Knowledge)
DEGREE REQUIREMENTS:

- Minimum 66 semester hours total (A minimum of 16 taken at CMU in no fewer than two semesters)
- A cumulative grade point average of 2.0 or higher must be maintained for all courses taken and a “C” or better must be achieved in coursework toward major content area.
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student’s responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student’s faculty advisor and Department Head.
- When filling out the program sheet a course can be used only once.
- See the “Undergraduate Graduation Requirements” in the catalog for additional graduation information.

ESSENTIAL LEARNING REQUIREMENTS (Minimum 15 semester Hours) See the current catalog for a list of courses that fulfill the requirements below. If a course is on the Essential Learning list of options and a requirement for your major, you must use it to fulfill the major requirement and make a different selection within the Essential Learning requirement. The Essential Learning capstone course and co-requisite Essential Speech course (required for bachelor’s degrees) cannot be used as options for the below requirements.

<table>
<thead>
<tr>
<th>Course No Title</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Trns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication (6 semester hours)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 111 English Composition</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 112 English Composition</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 111 English Composition</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPCH 101 Interpersonal Communication</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPCH 102 Speechmaking</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics: (Minimum 3 semester hours) Minimum MATH 107 Career Mathematics or higher</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Sciences, Natural Science, Fine Arts or Humanities (Minimum 6 semester hours)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course No Title</td>
<td>Sem.hrs</td>
<td>Grade</td>
<td>Term/Trns</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------</td>
<td>-------</td>
<td>-----------</td>
</tr>
<tr>
<td>KINE 100 Health and Wellness</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KINA 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

WELLNESS REQUIREMENT (2 semester hours)

<table>
<thead>
<tr>
<th>Course No Title</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Trns</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINE 100 Health and Wellness</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KINA 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ASSOCIATE OF APPLIED SCIENCE: COURSE REQUIREMENTS (49 semester hours)

<table>
<thead>
<tr>
<th>Course No Title</th>
<th>Sem.hrs</th>
<th>Grade</th>
<th>Term/Trns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Classes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 100 Practical Crop Production</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 100L Practical Crop Production Lab</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 101 Fermented Beverages</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 106 Fermentation Science</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 106L Fermentation Science Lab</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 130 Vineyard Estab/Mgmt</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 130L Vineyard Est/Mgmt Lab</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 131 Water and Irrig: Prin/Practices</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 131L Water and Irrig Lab</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 165 Winemaking I</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 165L Winemaking I Lab</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 170 Sensory Analysis</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 189 Viticulture Practicum</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 202 Winery Operation &amp; Mkting</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 205 Farm/Ranch Management</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 240 Intro Soil Science</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 240L Intro Soil Science Lab</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 245 Winemaking II</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 245L Winemaking II Lab</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 255 Vit. Harvest/Post Harvest Mgt</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 255L Vit. Harvest/Post Harvest Lab</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 260 Plant Propagation</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRS 265 Integrated Plant Health</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SUGGESTED COURSE SEQUENCING FOR THE ASSOCIATE OF APPLIED SCIENCE IN VITICULTURE AND ENOLGOY

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student’s responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

### Freshman Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRS100 Practical Crop Production</td>
<td>3</td>
</tr>
<tr>
<td>AGRS100L Practical Crop Production Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRS 240 Intro to Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>AGRS 240 Intro to Soil Science Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRS 260 Plant Propagation</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 111 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 107 Career Mathematics</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRS 101 Fermented Beverages</td>
<td>3</td>
</tr>
<tr>
<td>AGRS 106 Fermentation Science</td>
<td>2</td>
</tr>
<tr>
<td>AGRS 106L Fermentation Science Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRS 130 Vineyard Estab and Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>AGRS 130L Vineyard Estab and Mgmt Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRS 131 Water and Irrigation</td>
<td>2</td>
</tr>
<tr>
<td>AGRS 131L Water and Irrigation</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 112 English Composition</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

### Summer Term

<table>
<thead>
<tr>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRS189 Viticulture Practicum</td>
</tr>
</tbody>
</table>

### Sophomore Year

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRS 165 Winemaking I</td>
<td>3</td>
</tr>
<tr>
<td>AGRS 165L Winemaking I Lab</td>
<td>1</td>
</tr>
<tr>
<td>AGRS 170 Sensory Analysis</td>
<td>3</td>
</tr>
<tr>
<td>AGRS 202 Winery Operations &amp; Marketing</td>
<td>3</td>
</tr>
<tr>
<td>AGRS 255 Vit. Harvest &amp; Post Harvest Mgmt.</td>
<td>2</td>
</tr>
<tr>
<td>AGRS 255L Vit. Harvest &amp; Post Harvest Mgmt. Lab</td>
<td>1</td>
</tr>
<tr>
<td>SBS/NS/FA/Hum/Essential Learning</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRS 265 Integrated Plant Health</td>
<td>3</td>
</tr>
<tr>
<td>AGRS 205 Farm/Ranch Management</td>
<td>3</td>
</tr>
<tr>
<td>AGRS 245 Winemaking II</td>
<td>2</td>
</tr>
<tr>
<td>AGRS 245L Winemaking II Lab</td>
<td>1</td>
</tr>
<tr>
<td>SBS/NS/FA/Hum/ Essential Learning</td>
<td>3</td>
</tr>
<tr>
<td>KINE 100 Health &amp; Wellness</td>
<td>1</td>
</tr>
<tr>
<td>KINA 1XX</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

POLICIES:

1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates. You must turn in your “Intent to Graduate” form to the Registrar’s Office by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December.
3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar’s Office. (Students cannot handle the forms once the advisor signs.)
4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your “Intent to Graduate” does not automatically move to a later graduation date.
5. NOTE: The semester before graduation, you may be required to take a Major Field Achievement Test (exit exam).
Course Additions

AGRS 101
Credit Hours 3
Course Title: Fermented Beverages
Abbreviated Title: Fermented Beverages
Contact hours per week: Lecture 3 Lab Field Studio Other
Type of Instructional Activity: Lecture
Academic engagement minutes: 2250 Student preparation minutes: 4500
Intended semesters for offering this course: Fall ☑ J-Term ☐ Spring ☑ Summer ☐
Essential Learning Course: Yes ☐ No ☑
Prerequisites: Yes ☐ No ☑
Prerequisite for other course(s): Yes ☑ No ☐
Co-requisites: Yes ☐ No ☑
Requirement or listed choice for any program of study: Yes ☑ No ☐

CUAR 179, Wine, Spirits, and Beer, is offered through the Culinary Arts program. This course is similar in offering basic palate training for wine and beer. The major differences between the proposed course and CUAR 179 include the goals of the audience.

Faculty with a background in winemaking will be required for this course.

This course serves as an introductory course for the AAS in Viticulture and Enology program. Students will gain an overview of the wine and grape industry from both a product and production perspective.

Course description for catalog:
Introduction to the fermented beverage industry, relationships between field produce and finished product, and basic sensory attributes and palate training. Emphasizes the wine industry, but also includes cider and beer.

Topical course outline:
- Fermented beverage producing countries/regions
- Grape growing countries/regions in the world
- Environmental variables
- Varietals/cultivars/hybrids and wines
- Price/Quality continuum
- Basic palate training
- Processes and Ingredients

Student Learning Outcomes:
1) Identify the major wine, beer, and cider producing countries of the world.
2) Identify the major growing regions in those countries.
3) Identify the major grape varieties/cultivars/hybrids, region in which they are grown, and the wines produced from them.
4) Identify the characteristics of those wines and what makes them unique to their regions.
5) Describe how differences of soil, climate and vinification practices are reflected in the wines.
6) Analyze the price/quality continuum as it relates to various wine types and styles from different countries.
regions.
7) Analyze the price/quality continuum as it relates to various beers and ciders.
8) Identify the major sensory factors when tasting and evaluating fermented beverages.
9) Identify the major ingredients in fermented beverages, and the relationships to taste.
10) Describe the common production processes.

Proposed by:  Benjamin Keefer, Ph.D.  Expected Implementation:  Fall 2016
AGRS 106  
Credit Hours  2

Course Title: Fermentation Science
Abbreviated Title: Fermentation Science

Contact hours per week: Lecture 2  Lab  Field  Studio  Other

Type of Instructional Activity: Lecture
Academic engagement minutes: 1500  Student preparation minutes: 3000

Intended semesters for offering this course: Fall  J-Term  Spring  Summer

Essential Learning Course: Yes  No
Prerequisites: Yes  No
Prerequisite for other course(s): Yes  No
Co-requisites: Yes  No

AGRS 106L, Fermentation Science Laboratory

Faculty with a background in the chemistry and winemaking will be required for this course.

Additional equipment required: Yes  No
Carboys for fermentation, and chemical analysis equipment

Additional lab facilities required: Yes  No
A space for storage of fermenting liquid.

Course description for catalog:
Examination of fundamentals of microbiology and chemistry as they apply to fermented beverages, with an emphasis on the winemaking industry.

Justification:
This course serves as an introduction to the fundamentals of microbiology and chemistry as they apply to fermented beverages, with an emphasis on the winemaking industry. Emphasis is placed on organisms and elements impacting winemaking including ingredient analysis/fermentation/production chemicals, and properties of gasses/liquids, pH, and pressure; how they influence production and end products.

Topical course outline:
o Science of the fermentation process
o Chemical properties
o Analytical measures
o Stages of fermentation in wine, beer, and cider
o Environmental variables in fermentation
o Ingredients

Student Learning Outcomes:
1) Describe the basic microbiology and chemical processes of fermentation related to wine, and other fermented beverages.
2) Identify the basic scientific measures associated with winemaking and other fermented beverages.
3) Describe the purpose and function of analytical processes.
4) Identify the functions and types of yeast, and the inoculation process.
5) Describe the stages of fermentation in the production of wine, beer, and cider.
Course Title: Fermentation Science Laboratory

Abbreviated Title: Fermentation Science Lab

Contact hours per week: Lecture 2 Lab 2 Field Studio Other

Type of Instructional Activity: Laboratory: Academic/Clinical

Academic engagement minutes: 1500 Student preparation minutes: 750

Intended semesters for offering this course: Fall J-Term Spring Summer

Essential Learning Course: Yes No

Prerequisites: Yes No

Prerequisite for other course(s): Yes No

Co-requisites: Yes No

AGRS 106, Fermentation Science

Faculty with a background in the chemistry and winemaking will be required for this course.

Carboys for fermentation, and chemical analysis equipment

A space for storage of fermenting liquid.

Application of fundamentals of microbiology and chemistry as they apply to fermented beverages, with an emphasis on the winemaking industry.

This course serves as a laboratory for the introduction to the fundamentals of microbiology and chemistry as they apply to fermented beverages, with an emphasis on the winemaking industry. Emphasis is placed on organisms and elements impacting winemaking including ingredient analysis/fermentation/production chemicals, and properties of gasses/liquids, pH, and pressure; how they influence production and end products.

O Fermentation process
O Chemical property analysis
O Analytical measures
O Stages of fermentation in wine, beer, and cider
O Analysis of environmental variables in fermentation
O Ingredient analysis

Student Learning Outcomes:

1) Assess the basic microbiology and chemical processes of fermentation related to wine, and other fermented beverages.
2) Conduct basic scientific measures associated with winemaking and other fermented beverages.
3) Apply common analytical processes in the fermentation process.
4) Demonstrate the preparation of yeast, and the innoculation process.
5) Manage the stages of fermentation in the production of wine, beer, and cider.
AGRS 130

Course Title: Vineyard Establishment and Management

Abbreviated Title: Vineyard Estab/Mgmt

Contact hours per week: Lecture 3 Lab Field Studio Other

Type of Instructional Activity: Lecture

Academic engagement minutes: 2250 Student preparation minutes: 4500

Intended semesters for offering this course: Fall ☐ J-Term ☐ Spring ☑ Summer ☐

Essential Learning Course: Yes ☑ No ☐

Prerequisites: Yes ☑ No ☐

AGRS 100, Practical Crop Production, and AGRS 100L, Practical Crop Production Lab, or consent of instructor.

Prerequisite for other course(s): Yes ☑ No ☐

Co-requisites: Yes ☑ No ☐

AGRS 130L, Vineyard Establishment and Management Laboratory

Requirement or listed choice for any program of study: Yes ☑ No ☐

WCCC AAS, Viticulture and Enology

Overlapping content with present courses offered on campus: Yes ☑ No ☐

Additional faculty FTE required: Yes ☑ No ☐

Faculty with an educational background in agriculture and/or horticulture, and experience in viticulture will be required.

Additional equipment required: Yes ☑ No ☐

In this course, students will establish a new vineyard, and conduct vineyard management practices commonly applied in the winter/spring seasons. Appropriate tools and equipment will be required.

Additional lab facilities required: Yes ☑ No ☐

This course will require a site for a vineyard for educational purposes.

Course description for catalog:

Exploration of vineyard establishment and winter/spring vineyard management practices. Emphasis on site selection, vineyard layout, vine varieties, soil preparation, planting methods, plant establishment and training/manipulation, and tools and equipment.

Justification:
This course serves to provide the student with an understanding of the variables related to the planning and establishment of a new vineyard, and the vineyard management practices commonly conducted in the winter and spring seasons.

Topical course outline:

- Importance of grape world
- Grape botany: genus, species, history, taxonomy
- Grape varietal review
- Vine growth processes
- Site selection
- Tillage and planting techniques
- Trellising
- Fertility and Irrigation
- Common pests and disease
- Pruning, suckering, thinning, canopy management
- Bud assessment
- Bloom, and pollination
- Cover crops
- Yield

**Student Learning Outcomes:**

1. Describe the history of the genus Vitis.
2. Identify critical site selection elements: heat units, soils, slopes, micro-climates, and crop history.
3. Identify planting techniques for new grape vines.
4. Describe the function of the major growth management functions in quality grape production, including:
   - Pruning
   - Suckering
   - Thinning
   - Canopy management
5. Identify common grape pests and their control.
6. Calculate and assess water requirements during the growing season.
7. Describe the early growth stages, including grape bloom, and pollination.
8. Describe the stages of growth, and determine the related fertility needs of the vine.
9. Assess the importance of grower/vintner relationship.
10. Describe post-planting management options, including pest control and cover crops.
11. Identify cover crop options.
12. Identify common pests and diseases, and control strategies.

**Proposed by:** Benjamin Keefer, Ph.D.  
**Expected Implementation:** Fall 2016
AGRS 130L

Credit Hours  1

Course Title: Vineyard Establishment and Management Laboratory

Abbreviated Title: Vineyard Estab/Mgmt Lab

Contact hours per week: Lecture  Lab 2  Field  Studio  Other

Type of Instructional Activity: Laboratory: Academic/Clinical

Academic engagement minutes: 1500  Student preparation minutes: 750

Intended semesters for offering this course: Fall  ☐  J-Term  ☐  Spring  ☑  Summer  ☐

Essential Learning Course: Yes  ☑  No  ☐

Prerequisites: Yes  ☑  No  ☐

AGRS 100, Practical Crop Production, and AGRS 100L, Practical Crop Production Lab, or consent of instructor.

Prerequisite for other course(s): Yes  ☑  No  ☐

Co-requisites: Yes  ☑  No  ☐

AGRS 130, Vineyard Establishment and Management

WCCC AAS, Viticulture and Enology

Overlapping content with present courses offered on campus: Yes  ☑  No  ☐

Additional faculty FTE required: Yes  ☑  No  ☐

Faculty with an educational background in agriculture and/or horticulture, and experience in viticulture will be required.

Additional equipment required: Yes  ☑  No  ☐

In this course, students will establish a new vineyard, and conduct vineyard management practices commonly applied in the winter/spring seasons. Appropriate tools and equipment will be required.

Additional lab facilities required: Yes  ☑  No  ☐

This course will require a site for a vineyard for educational purposes.

Course description for catalog:

Application of vineyard establishment and winter/spring vineyard management practices. Emphasis on site selection, vineyard layout, vine varieties, soil preparation, planting methods, plant establishment and training/manipulation, and tools and equipment.

Justification:

This course serves to provide the student with applied experiences in the planning and establishment of a new vineyard, and the vineyard management practices commonly conducted in the winter and spring seasons.

Topical course outline:

- Grape botany: genus, species, history, taxonomy
- Enterprise Budgeting
- Grape varietal selection
- Management of vine growth processes
- Site selection
- Site preparation and planting
- Trellis establishment
- Fertility and Irrigation
- Pests and disease management
- Pruning, suckering, thinning, canopy management
- Bud assessment
Student Learning Outcomes:

1) Create a site plan for a new vineyard.
2) Evaluate critical site selection elements: heat units, soils, slopes, micro-climates, and crop history.
3) Plant/establish new grape vines.
4) Demonstrate the major vine management functions, including:
   a. Pruning.
   b. Suckering.
   c. Thinning.
   d. Canopy management.
5) Identify common grape pests and determine appropriate control strategies.
6) Calculate and address irrigation requirements during the growing season.
7) Assess grape bloom, pollination, and then calculate fertility needs of new vines.
8) Select post-planting pest control and cover crop options.
9) Establish cover crops.
10) Identify common pests and diseases and apply appropriate control.

Proposed by: Benjamin Keefer, Ph.D.  Expected Implementation: Fall 2016
AGRS 131

Course Title: Water and Irrigation: Principles and Practices

Abbreviated Title: Water and Irrigation

Contact hours per week: Lecture 2 Lab Field Studio Other

Type of Instructional Activity: Lecture

Academic engagement minutes: 1500 Student preparation minutes: 3000

Intended semesters for offering this course: Fall J-Term Spring Summer

Essential Learning Course: Yes No ✓

Prerequisites: Yes ✓ No □

AGRS 100, Practical Crop Production, and AGRS 100L, Practical Crop Production Lab, or consent of instructor.

Prerequisite for other course(s): Yes ✓ No □

Co-requisites: Yes ✓ No □

AGRS 131L, Water and Irrigation Laboratory

Requirement or listed choice for any program of study: Yes ✓ No □

WCCC AAS, Viticulture and Enology

Overlapping content with present courses offered on campus: Yes □ No ✓

Additional faculty FTE required: Yes ✓ No □

Faculty with an educational background in agriculture and/or horticulture, and experience in viticulture will be required.

Additional equipment required: Yes ✓ No □

In this course, students will establish and maintain an irrigation system in a vineyard. Appropriate tools and equipment will be required.

Additional lab facilities required: Yes ✓ No □

This course will require a site for a vineyard for educational purposes.

Course description for catalog:

Exploration of water, soil, and plant relationships; water quality assessment; principles of irrigation, methods, and systems.

Justification:

Water, and its management through irrigation systems is a critical element to a successful vineyard, and the production of quality wine grapes. This course serves to provide the student with an understanding of the critical relationships between water, soil, and plants; the assessment of water quality; the principles of irrigation and water management; methods and systems commonly found in vineyards; and variables related to the planning and establishment of a new irrigation system.

Topical course outline:

- Water, soil, plant relationships
- Water quality factors
- Irrigation principles
- Irrigation water management variables
- Irrigation methods and systems
- Water pumps and filters
- Irrigation system planning

Student Learning Outcomes:
1) Explain the relationships between water, soil, plants, and related environmental factors.
2) Interpret the results of a water quality analysis.
3) Describe the principles of irrigation as they relate to vineyards.
4) Assess issues related to irrigation water management, including availability and plant needs, seasonal variations in quality, and timing of irrigation.
5) Identify types of irrigation systems.
6) Create a site plan for irrigation.
7) Assess irrigation system options based on site characteristics, and budget.
8) Create a maintenance schedule for an existing irrigation system.
9) Describe the functions of water pumps and filtration systems.
10) Calculate water pump requirements based on site characteristics.

Proposed by: Benjamin Keefer, Ph.D.  Expected Implementation: Fall 2016
AGRS 131

Course Title: Water and Irrigation: Principles and Practices Laboratory
Abbreviated Title: Water and Irrigation Lab

Contact hours per week: Lecture Lab 2 Field Studio Other

Type of Instructional Activity: Laboratory: Academic/Clinical

Academic engagement minutes: 1500 Student preparation minutes: 750

Intended semesters for offering this course: Fall ☐ J-Term ☐ Spring ☑ Summer ☐

Essential Learning Course: Yes ☑ No ☐

Prerequisites: Yes ☑ No ☐

AGRS 100, Practical Crop Production, and AGRS 100L, Practical Crop Production Lab, or consent of instructor.

Prerequisite for other course(s): Yes ☑ No ☐

Co-requisites: Yes ☑ No ☐

AGRS 131, Water and Irrigation: Principles and Practices

Requirement or listed choice for any program of study: Yes ☑ No ☐

WCCC AAS, Viticulture and Enology

Overlapping content with present courses offered on campus: Yes ☑ No ☐

Additional faculty FTE required: Yes ☑ No ☐

Faculty with an educational background in agriculture and/or horticulture, and experience in viticulture will be required.

Additional equipment required: Yes ☑ No ☐

In this course, students will establish and maintain an irrigation system in a vineyard. Appropriate tools and equipment will be required.

Additional lab facilities required: Yes ☑ No ☐

This course will require a site for a vineyard for educational purposes.

Course description for catalog:

Applications in water, soil, and plant relationships; water quality assessment; principles of irrigation, methods, and systems.

Justification:

Water, and its management through irrigation systems is a critical element to a successful vineyard, and the production of quality wine grapes. This course serves to provide the student with applied experiences related to the relationships of water, soil, and plants; assessment of water quality; principles of irrigation and water management; methods and systems commonly found in vineyards; and variables related to the planning and establishment of a new irrigation system.

Topical course outline:

- Water, soil, plant relationships
- Assessing water quality
- Irrigation water management
- Irrigation methods and systems
- Selecting, installing, and maintaining water pumps and filters
- Irrigation system planning
- Irrigation system establishment and maintenance

Student Learning Outcomes:

1) Apply the relationships between water, soil, plants, and related environmental factors, in the selection of an irrigation system.
2) Draw a water sample, and interpret the results of a water quality analysis.
3) Apply the principles of irrigation water management, including methods of determining plant requirements, and availability, seasonal variations in quality, and managing the timing of irrigation.
4) Select an irrigation system based on site characteristics, and budget.
5) Install an irrigation system.
6) Conduct regular maintenance of an existing irrigation system.

Proposed by:  Benjamin Keefer, Ph.D.  
Expected Implementation:  Fall 2016
AGRS 165  

Course Title: Winemaking I  

Contact hours per week: Lecture 3, Lab 0, Field 0, Studio 0, Other 0  

Type of Instructional Activity: Lecture  

Academic engagement minutes: 2250  

Student preparation minutes: 4500  

Intended semesters for offering this course: Fall √ J-Term □ Spring □ Summer □  

Essential Learning Course: Yes □ No √  

Prerequisites: Yes √ No □  

AGRS 100, Fermented Beverages; and AGRS 100L, Practical Crop Production Laboratory; AGRS 106, Fermentation Science, and AGRS 106L, Fermentation Science Laboratory  

Prerequisite for other course(s): Yes √ No □  

Co-requisites: Yes √ No □  

AGRS 165L, Winemaking I Laboratory  

Overlapping content with present courses offered on campus: Yes □ No □  

Additional faculty FTE required: Yes √ No □  

Faculty with a background in the chemistry and winemaking will be required for this course.  

Additional equipment required: Yes √ No □  

Carboys and related fermentation equipment, chemical analysis equipment, grape presses, fruit processing and filtration equipment  

Additional lab facilities required: Yes √ No □  

A space and equipment for storage of fermenting liquid.  

Course description for catalog:  

Exploration of the winemaking process; winemaking principles such as alcoholic and malo-lactic fermentations; juice additions; and winery hygiene and safety. Includes pre-harvest analyses, grape harvest, fruit processing, and filtration.  

Justification:  

This course provides the student with knowledge of the critical steps in the beginning stages of the winemaking process.  

Topical course outline:  

- Pre-harvest fruit selection and analysis  
- Winery safety and sanitation  
- Red, white and rosé wine production  
- Alcoholic and malo-lactic fermentations  
- Juice addition calculations  

Student Learning Outcomes:  

1) Identify pre-harvest fruit selection and juice analysis factors  
2) Identify critical processes in winery safety and sanitation  
3) Define steps in red, white, and rosé wine grape processing  
4) Summarize alcoholic and malo-lactic fermentations, and critical points of analysis
5) Calculate and determine juice additions

Proposed by: Benjamin Keefer, Ph.D.  Expected Implementation: Fall 2016
Course Title: Winemaking I Laboratory

Type of Instructional Activity: Laboratory: Academic/Clinical

Academic engagement minutes: 1500
Student preparation minutes: 750

Intended semesters for offering this course: Fall ☑ J-Term ☐ Spring ☐ Summer ☐

Essential Learning Course: Yes ☑ No ☐
Prerequisites: Yes ☑ No ☐
AGRS 100, Fermented Beverages; and AGRS 100L, Practical Crop Production Laboratory; AGRS 106, Fermentation Science, and AGRS 106L, Fermentation Science Laboratory
Prerequisite for other course(s): Yes ☑ No ☐
Co-requisites: Yes ☑ No ☐
AGRS 165, Winemaking I

Requirement or listed choice for any program of study: Yes ☑ No ☐
WCCC AAS, Viticulture and Enology

Overlapping content with present courses offered on campus: Yes ☑ No ☐

Additional faculty FTE required: Yes ☑ No ☐
Faculty with a background in the chemistry and winemaking will be required for this course.

Additional equipment required: Yes ☑ No ☐
Carboys and related fermentation equipment, chemical analysis equipment, grape presses, fruit processing and filtration equipment

Additional lab facilities required: Yes ☑ No ☐
A space and equipment for storage of fermenting liquid.

Course description for catalog:
Applications of the winemaking process; winemaking principles such as alcoholic and malo-lactic fermentations; juice additions; and winery hygiene and safety. Includes pre-harvest analyses, grape harvest, fruit processing, and filtration.

Justification:
This course provides the student a guided experience in the making of wine. This experience is critical to successful employment, or self-employment in the wine industry.

Topical course outline:
- Pre-harvest fruit selection and analysis
- Grape harvest
- Winery safety and sanitation
- Red, white and rosé wine production
- Alcoholic and malo-lactic fermentations
- Juice addition calculations

Student Learning Outcomes:
1) Assess fruit in pre-harvest stage
2) Harvest, properly handle and store grapes
3) Create a safe and sanitary work environment
4) Process red, white, and rosé wine grapes
5) Conduct alcoholic and malo-lactic fermentations, and measure critical points of analysis
6) Select and integrate juice additions

Proposed by: Benjamin Keefer
Expected Implementation: Fall 2016
Course Title: Sensory Analysis
Abbreviated Title: Sensory Analysis

Contact hours per week: 
Lecture: 4.5
Lab: 0
Field: 0
Studio: 0
Other: 0

Type of Instructional Activity: Lecture/Laboratory: Vocational/Technical

Academic engagement minutes: 3375
Student preparation minutes: 3375

Intended semesters for offering this course: 
Fall: ☑
J-Term: ☐
Spring: ☐
Summer: ☐

Essential Learning Course: Yes ☑ No ☐

Prerequisites: Yes ☑ No ☐
AGRS 100, Fermented Beverages; and AGRS 100L, Practical Crop Production Laboratory; AGRS 106, Fermentation Science, and AGRS 106L, Fermentation Science Laboratory

Prerequisite for other course(s): Yes ☑ No ☐

Co-requisites: Yes ☑ No ☐

WCCC AAS, Viticulture and Enology

Requirement or listed choice for any program of study: Yes ☑ No ☐

Overlapping content with present courses offered on campus: Yes ☑ No ☐

Additional faculty FTE required: Yes ☑ No ☐

Faculty with a background in winemaking, and analysis, will be required for this course.

Additional equipment required: Yes ☑ No ☐

Wine tasting glassware, sensory equipment and samples.

Additional lab facilities required: Yes ☑ No ☐

A space that is in a quiet setting, and well-ventilated, is required for this course.

Course description for catalog:

Exploration of sensory training specific to wine production with a focus on the details of olfactory and taste transduction mechanisms. The class will focus on specific wine varietals, use of oak in winemaking, secondary fermentation, characteristics, and individual wine component threshold identification.

Justification:
The ability to analyze wine, and draw conclusion related to it development, is a critical element to the success of the winemaker.

Topical course outline:

- Sensory dimensions of wine.
- Analysis panels.
- Basic tasting skills.
- Wine aroma.
- Taste system/Basic tastes.
- Tastes in white wine analysis.
- Tastes in red wine analysis.
- Taste threshold testing analysis.
- Wine fault identification analysis.
- Wine and food interactions analysis.
- Red, white, sparkling, fortified, full bodied red, full bodied white analysis.
- Light and medium bodied white and red analysis.
- Old world vs. new world red and white.
Student Learning Outcomes:

1) Identify sensory evaluation factors of both red and white wine varietals and their differences by observation, olfaction and tasting of over 200 wines.
2) Distinguish between various wine faults and recognize their influence on the perception of wine.
3) Analyze wines, differentiate various aroma and flavor markers for different varietals and defend individual perception in various wines.
4) Critique, appraise, differentiate and identify various wines.
5) Explain basic tastes, method of transduction and their relevance to wine.

Proposed by: Benjamin Keefer

Expected Implementation: Fall 2016
Course Title: Viticulture Practicum

Contact hours per week: Lecture  Lab  Field  9  Studio  Other

Type of Instructional Activity: Internship/Practicum

Academic engagement minutes: 6750  Student preparation minutes:

Intended semesters for offering this course: Fall  ☑  J-Term  ☐  Spring  ☑  Summer  ☑

Essential Learning Course: Yes  ☑  No  ☐

Prerequisites: Yes  ☑  No  ☐

AGRS 130, Vineyard Establishment and Management, and AGRS 130L, Vineyard Establishment and Management Laboratory, or consent of instructor.

Prerequisite for other course(s): Yes  ☑  No  ☐

Co-requisites: Yes  ☑  No  ☐

Requirement or listed choice for any program of study: Yes  ☑  No  ☐

WCCC  AAS, Viticulture and Enology

Overlapping content with present courses offered on campus: Yes  ☑  No  ☐

Additional faculty FTE required: Yes  ☑  No  ☐

Faculty with an educational background in agriculture and/or horticulture, and experience in viticulture will be required.

Additional equipment required: Yes  ☑  No  ☐

Additional lab facilities required: Yes  ☑  No  ☐

Course description for catalog:

Exploration of vineyard maintenance, through a combination of applied learning and work experience facilitated by experienced growers.

Justification:

Practical experience in the application of vineyard management practices is critical to the success, and future employment of the student.

Topical course outline:

- Application of vineyard management practices

Student Learning Outcomes:

1) Apply vineyard management practices appropriate to the site, and season.
2) Demonstrate an understanding of the importance of good work ethic, and employee/employer relationships.

Proposed by: Benjamin Keefer  Expected Implementation: Fall 2016
AGRS 202  
Credit Hours  3

Course Title:  Winery Operations and Marketing
Abbreviated Title:  Winery Operat./Mrkting

Contact hours per week:  Lecture  3   Lab   Field   Studio   Other

Type of Instructional Activity:  Lecture

Academic engagement minutes:  2250   Student preparation minutes:  4500

Intended semesters for offering this course:  Fall  ☑  J-Term  ☐  Spring  ☐  Summer  ☐

Essential Learning Course:  Yes  ☑  No  ☐

Prerequisites:  Yes  ☑  No  ☐

Prerequisite for other course(s):  Yes  ☑  No  ☐

Co-requisites:  Yes  ☑  No  ☐

Requirement or listed choice for any program of study:  Yes  ☑  No  ☐

WCCC  AAS,  Viticulture and Enology

Overlapping content with present courses offered on campus:  Yes  ☑  No  ☐

Additional faculty FTE required:  Yes  ☑  No  ☐

Faculty with experience in viticulture and/or winemaking will be required.

Additional equipment required:  Yes  ☑  No  ☐

Additional lab facilities required:  Yes  ☑  No  ☐

Course description for catalog:
Analysis of the annual winery operations cycle (includes equipment; health, safety, and sanitation; regulatory compliance requirements; and management of waste, storage, and distribution systems), and product distribution, sales, and marketing. Includes visitation to existing winemaking businesses.

Justification:
The grape harvest is the culmination of the growing season. The quality of the harvest is dependent on the management and care of the fruit as it matures, and the timing of the harvest. Proper post-harvest care of the vineyard is the first step towards the success of the next growing season.

Topical course outline:
o  The annual cycle of winemaking
o  Basic tasks required for winemaking
o  Winery equipment and supplies
o  Annual plan for winery management
o  Budgets and planning
o  Budget development
o  Marketing plan
o  Labor management
o  Health and safety issues
o  Employee handbooks
o  Immigration Law
o  Record keeping
o  The legal structure of businesses
o  Legal compliance
o  Design and layout of winery areas
o  Current issues in winery management
o  Winery and wine compliance regarding state and federal laws

Student Learning Outcomes:
1) Analyze winery management practices.
2) Compare alternative winery management practices.
3) Critique potential winery management issues.
4) Create an annual plan of winery operations.
5) Create a budget for winery operations.
6) Analyze a winery marketing plan and how successfully it fits into a winery's operating parameters.
7) Explain the process to evaluate employees.
8) Explain the nature of successful personnel management and management's responsibilities to its employees.
9) Critique the integration of production and sales functions within the winery, and identify potential efficiencies to be achieved for optimal operation.
10) Identify compliance issues regarding state and federal laws.

Proposed by: Benjamin Keefer, Ph.D. 
Expected Implementation: Fall 2016
AGRS 245  
Credit Hours  2

Course Title:  Winemaking II

Contact hours per week:  Lecture 2 Lab Field Studio Other

Type of Instructional Activity:  Lecture

Academic engagement minutes:  1500  Student preparation minutes:  3000

Intended semesters for offering this course:  Fall  ☐  J-Term  ☐  Spring  ☑  Summer  ☐

Essential Learning Course:  Yes  ☑  No  ☐

Prerequisites:  Yes  ☑  No  ☐

AGRS 165, Winemaking I, and AGRS 165L, Winemaking I Laboratory

Prerequisite for other course(s):  Yes  ☑  No  ☐

Co-requisites:  Yes  ☑  No  ☐

AGRS 245L, Winemaking II Laboratory

Requirement or listed choice for any program of study:  Yes  ☑  No  ☐

WCCC  AAS,  Viticulture and Enology

Overlapping content with present courses offered on campus:  Yes  ☑  No  ☐

Additional faculty FTE required:  Yes  ☑  No  ☐

Faculty with a background in the chemistry and winemaking will be required for this course.

Additional equipment required:  Yes  ☑  No  ☐

Carboys and related fermentation equipment, chemical analysis, filtration, and bottling equipment.

Additional lab facilities required:  Yes  ☑  No  ☐

A space and equipment for storage of wine.

Course description for catalog:

Exploration of wine filtration, and post-fermentation wine stewardship techniques. Also includes the principles of wine composition, wine analytical techniques, and the relevance of these analyses to winemaking decisions.

Justification:

This course provides the student with knowledge of the critical steps in the winemaking process.

Topical course outline:

- Sparkling wine production, theory and practice
- Fortified wine production theory
- Methods of wine stabilization, theory and practice
- Options in bottling wine
- Industry seminars and visitation
- Oak chemistry and sensory analysis

Student Learning Outcomes:

1) Identify techniques in the stabilization and clarification of white wine.
2) Explain the processes in fining and filtration of white and red wine.
3) Identify proper fining and acidification techniques.
4) Identify post-fermentation winemaking techniques and practices.
5) Explain processes for proper sanitation.
6) Explain the basics of TQM techniques for winemaking.
7) Identify wine filtration techniques and concepts.
AGRS 245L
Credit Hours  1
Course Title:  Winemaking II Laboratory
Abbreviated Title:  Winemaking II Lab

Contact hours per week:  Lecture  Lab  2  Field  Studio  Other
Type of Instructional Activity:  Laboratory: Academic/Clinical

Academic engagement minutes:  1500  Student preparation minutes:  750

Intended semesters for offering this course:  Fall  ☐  J-Term  ☐  Spring  ☑  Summer  ☐
Essential Learning Course:  Yes  ☑  No  ☐
Prerequisites:  Yes  ☑  No  ☐
AGRS 165, Winemaking I, and AGRS 165L, Winemaking I Laboratory
Prerequisite for other course(s):  Yes  ☑  No  ☐
Co-requisites:  Yes  ☑  No  ☐
AGRS 245, Winemaking II

Faculty with a background in the chemistry and winemaking will be required for this course.
Carboys and related fermentation equipment, chemical analysis, filtration, and bottling equipment.
A space and equipment for storage of wine.
Applications of wine filtration, and post-fermentation wine stewardship techniques. Also includes the principles of wine composition, wine analytical techniques, and the relevance of these analyses to winemaking decisions.

Course description for catalog:
Applications of wine filtration, and post-fermentation wine stewardship techniques. Also includes the principles of wine composition, wine analytical techniques, and the relevance of these analyses to winemaking decisions.

Justification:
This course provides the student with knowledge of the critical steps in the winemaking process.

Topical course outline:
- Applications in sparkling wine production
- Applications in fortified wine production
- Methods of wine stabilization
- Bottling wine, including actual bottling of student made wines
- Industry seminars and visitation
- Sensory analysis of wine

Student Learning Outcomes:
1) Apply techniques in the stabilization and clarification of white wine.
2) Conduct the processes in fining and filtration of white and red wine.
3) Apply fining and acidification techniques and processes.
4) Determine and apply post fermentation winemaking techniques and practices.
5) Model area sanitation practices, and bottling sterility.
6) Apply quality management strategies in winemaking.
7) Demonstrate wine filtration techniques and concepts.

| Proposed by:         | Benjamin Keefer | Expected Implementation: | Fall 2016 |
AGRS 255

Course Title: Viticulture Harvest and Post-harvest Management
Abbreviated Title: Viticulture Harvest Mgmt

Contact hours per week: Lecture 2 Lab Field Studio Other
Type of Instructional Activity: Lecture

Academic engagement minutes: 1500 Student preparation minutes: 3000

Intended semesters for offering this course: Fall ☑️ J-Term ☐ Spring ☐ Summer ☐
Essential Learning Course: Yes ☑️ No ☐

Prerequisites: Yes ☑️ No ☐
AGRS 100, Practical Crop Production, and AGRS 100L, Practical Crop Production Laboratory, or consent of instructor.

Prerequisite for other course(s): Yes ☑️ No ☐
Co-requisites: Yes ☑️ No ☐
AGRS 255L, Viticulture Harvest and Post-harvest Management Laboratory

Requirement or listed choice for any program of study: Yes ☑️ No ☐
WCCC AAS, Viticulture and Enology

Overlapping content with present courses offered on campus: Yes ☑️ No ☐
Additional faculty FTE required: Yes ☑️ No ☐
Faculty with an educational background in agriculture and/or horticulture, and experience in viticulture will be required.

Additional equipment required: Yes ☑️ No ☐
In this course, students will conduct a grape harvest, and fall vineyard management practices. Appropriate tools and equipment will be required.

Additional lab facilities required: Yes ☑️ No ☐
This course will require a site for a vineyard for educational purposes.

Course description for catalog:
Exploration of late summer and fall vineyard operations including: maturity sampling, bird netting, and fall harvest. Includes preparation of the vineyard for winter.

Justification:
The grape harvest is the culmination of the growing season. The quality of the harvest is dependent on the management and care of the fruit as it matures, and the timing of the harvest. Proper post-harvest care of the vineyard is the first step towards the success of the next growing season.

Topical course outline:
- Grape quality
- Netting and fruit protection
- Fall irrigation management
- Harvest considerations
- Grape harvest
- Post-harvest care of grapes
- Post-harvest care of vines and alleys
- Post-harvest equipment maintenance
- Post-harvest trellis maintenance

Student Learning Outcomes:
1) Identify factors of quality commonly associated with wine grapes.
2) Interpret the results of a grape analysis.
3) Identify methods of protecting fruit in the vineyard from birds and related pests.
4) Explain fall irrigation water management considerations.
5) Identify factors that impact the timing of the grape harvest.
6) Create a harvest management plan.
7) Explain factors associated with the post-harvest care, storage, and transportation of grapes.
8) Identify fall vineyard management considerations/tasks.
9) Identify common maintenance considerations for the vineyard and related equipment.

Proposed by: Benjamin Keefer, Ph.D.  
Expected Implementation: Fall 2016
AGRS 255L  
Course Title: Viticulture Harvest and Post-harvest Management Laboratory  
Abbreviated Title: Vitic. Harvest Mgmt Lab  
Contact hours per week:  
- Lecture:  
- Lab: 2  
- Field:  
- Studio:  
- Other:  
Type of Instructional Activity: Laboratory: Academic/Clinical  

<table>
<thead>
<tr>
<th>Academic engagement minutes:</th>
<th>1500</th>
<th>Student preparation minutes:</th>
<th>750</th>
</tr>
</thead>
</table>

Intended semesters for offering this course:  
- Fall [✓]  
- J-Term [ ]  
- Spring [ ]  
- Summer [ ]  

Essential Learning Course:  
- Yes [✓]  
- No [ ]  

Prerequisites:  
- Yes [✓]  
- No [ ]  

AGRS 100, Practical Crop Production, and AGRS 100L, Practical Crop Production Laboratory, or consent of instructor.  

Prerequisite for other course(s):  
- Yes [✓]  
- No [ ]  

Co-requisites:  
- Yes [✓]  
- No [ ]  

AGRS 255, Viticulture Harvest and Post-harvest Management  

Requirement or listed choice for any program of study:  
- Yes [✓]  
- No [ ]  

WCCC AAS, Viticulture and Enology  

Overlapping content with present courses offered on campus:  
- Yes [✓]  
- No [ ]  

Additional faculty FTE required:  
- Yes [✓]  
- No [ ]  

Faculty with an educational background in agriculture and/or horticulture, and experience in viticulture will be required.  

Additional equipment required:  
- Yes [✓]  
- No [ ]  

In this course, students will conduct a grape harvest, and fall vineyard management practices. Appropriate tools and equipment will be required.  

Additional lab facilities required:  
- Yes [✓]  
- No [ ]  

This course will require a site for a vineyard for educational purposes.  

Course description for catalog:  
Application of late summer and fall vineyard operations including: maturity sampling, bird netting, and fall harvest. Includes preparation of the vineyard for winter.  

Justification:  
The grape harvest is the culmination of the growing season. The quality of the harvest is dependent on the management and care of the fruit as it matures, and the timing of the harvest. Proper post-harvest care of the vineyard is the first step towards the success of the next growing season.  

Topical course outline:  
- Grape quality  
- Netting and fruit protection  
- Fall irrigation management  
- Grape yield assessment  
- Harvest considerations  
- Grape harvest  
- Post-harvest care of grapes  
- Post-harvest care of vines and alleys  
- Post-harvest equipment maintenance  
- Post-harvest trellis maintenance  

Student Learning Outcomes:
1) Conduct a grape analysis, and interpret the results.
2) Apply bird-netting, and other methods of protecting fruit in the vineyard.
3) Assess the potential grape yield.
4) Determine irrigation water management procedures that are appropriate to the timing of the harvest, and fall vineyard care.
5) Demonstrate proper methods in harvesting wine grapes.
6) Demonstrate care of the wine grape, post-harvest, and considerations related to its storage and transportation.
7) Explain fall vine management procedures.
8) Demonstrate common fall vineyard maintenance tasks.
9) Apply common fall equipment and vineyard structure maintenance tasks.
10) Winterize an irrigation system.

Proposed by: Benjamin Keefer, Ph.D.  Expected Implementation: Fall 2016
Course Title: Integrated Plant Health Management
Abbreviated Title: Integrated Plant Health

Contact hours per week: Lecture 3 Lab Field Studio Other
Type of Instructional Activity: Lecture

Academic engagement minutes: 2250 Student preparation minutes: 4500

Intended semesters for offering this course: Fall ☐ J-Term ☐ Spring ☑ Summer ☐
Essential Learning Course: Yes ☑ No ☐
Prerequisites: Yes ☑ No ☐
AGRS 100, Practical Crop Production, and AGRS 100L, Practical Crop Production Laboratory, or consent of instructor.

Prerequisite for other course(s): Yes ☑ No ☐
Co-requisites: Yes ☑ No ☐
Requirement or listed choice for any program of study: Yes ☑ No ☐
WCCC AAS, Sustainable Agriculture: 1310
WCCC AAS, Viticulture and Enology

Overlapping content with present courses offered on campus: Yes ☐ No ☑
Additional faculty FTE required: Yes ☑ No ☐
Additional equipment required: Yes ☑ No ☐
Additional lab facilities required: Yes ☑ No ☐

Course description for catalog:
Multi-faceted approaches to the management of plant health through analysis of soil characteristics, nutrients, irrigation, and integrated pest management techniques for reducing pest susceptibility and enhancing crop production yield and quality.

Justification:
Successful plant health management is one of the most important, and complex tasks of the grower. This course seeks to integrate the knowledge and skills the student obtained in AGRS 100 and 100L, and apply them in a holistic approach to plant health management.

Topical course outline:
1. Diagnosing plant problems; the diagnostic process
2. Plant protective features and factors responsible for enhancing a plant's protective features
3. Plant responses to stress; injury, damage, mortality
4. Stress management of root, stem, and leaf tissue to reduce susceptibility to plant pests and problems and enhance plant quality and yield
5. Management of fungal and fungal-like pathogens based on an understanding of requirements for inoculation and penetration
6. Management and prevention of insect, mite, and nematode plant damage
7. Identification and prevention of plant virus and phytoplasma-caused plant diseases
8. The use of pesticides and biologics to enhance plant growth and yield

Student Learning Outcomes:
1) Explain management options for biotic and environmental factors responsible for yield reduction and loss of crop quality
2) Explain soil management techniques and how it affects root health and disease potential
3) Explain soil microbial activity and its effect on protection of roots from disease organisms
4) Explain the need for irrigation scheduling to ensure soil has adequate oxygen for root health
5) Explain how and why nutrients ensure metabolic activity is adequate for production of plant protective substances
6) Identify management options necessary to control/prevent diseases caused by fungal and fungal-like organism
7) Identify virus and phytoplasmas-caused diseases and explain steps required for prevention
8) Explain nematode, insect, and mite management options
9) Explain how to incorporate Integrated Pest Management concepts into crop production programs

Proposed by:  Benjamin Keefer  
Expected Implementation:  Fall 2016