Faculty is required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

DEPT: Powersports Technology       COURSE NUMBER: PRSP 1130

NUMBER OF CREDITS: 3 credits (3 lecture - 0 lab)

COURSE TITLE: ATV / Motorcycle Technology

CATALOG DESCRIPTION: This course will cover fundamental operating principles and service techniques for ATV and Motorcycle engines and transmissions. Clutches, drive systems and suspensions on each vehicle style will be explained and analyzed to understand performance expectations for the varied design technologies applied in vehicle applications.

AUDIENCE: Powersports Technology Students

FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)

PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE:
- Passing grade in TRAN 1100 Introduction to Transportation
- Basic Mechanical Aptitude
- Capable of Reading and Writing
- Communication Skills.

LENGTH OF COURSE: 3 credits (3 lecture – 0 lab) Spring Semester

THIS COURSE IS USUALLY OFFERED: Spring Semester

Four goals emphasized in course:

1) ACADEMIC CONTENT: The academic objectives of this course are:
   a) Reading
   b) Writing
   c) Basic math

2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skills through:
   a) Problem Solving
   b) Diagnosing
   c) Analyzing
   d) Researching

3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
a) Participation in class discussion.
b) Completing written assignments.
c) Improving oral communications skills through class and lab interaction.

4) **HUMAN DIVERSITY:** This course will help students recognize, understand, and appreciate human diversity through:
   a) To understand the roles of the technician in communicating with a diverse population.
   b) To work effectively in teams comprised of diverse backgrounds.
   c) To express personal philosophies on diverse issues.

**TOPICS TO BE COVERED:**
- Shop Safety
- 4-cycle engine theory
- Internal and external components of a 4-cycle engine
- Necessary maintenance procedures for ATV / Motorcycle
- Precision measuring equipment and tooling for 4-stroke engines
- Operating principles of transmissions, clutches, suspensions, cooling, braking, and drive systems on the ATV / Motorcycle

**LIST OF EXPECTED COURSE OUTCOMES:** To achieve a fundamental understanding of the 4-cycle engine theory while learning the internal and external components. During the examining of the engine components students will be relooking at precision measuring equipment. Discussions will be conducted on the normal maintenance procedures for ATV / Motorcycles as they apply to fuel systems, clutches, suspension, cooling, braking, and drive systems.

**STUDENT LEARNING OUTCOMES (SPECIFIC):**
*Upon completion of this course the student will be able to:*
   a) Exhibit proper safety techniques.
   b) Describe and explain what strokes take place during the running of a 4-cycle engine in the correct order.
   c) Demonstrate the proper sequence of disassembly according to the service manuals.
   d) Describe and illustrate the proper use of precision measuring tools while inspecting the engine during teardown.
   e) Working diligently and proficiently.
   f) Demonstrate the proper use of verbal and written communication skills.

**LEARNING/TEACHING TECHNIQUES used in the course are:**
- Collaborative Learning
- Student Presentations
- Creative Projects
- Lecture
- Demonstrations
- Lab

**ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:**
- Reading
- Tests
- Individual Projects
Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

The information in this course outline is subject to revision

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or via your preferred Telecommunications Relay Service.

A Member of the Minnesota State Colleges and Universities System
An Affirmative Action Equal Opportunity Educator/Employer

Revised 1/11/18