Print Date: 7/14/14

Course Objectives/Course Outline
Spokane Community College

Course Title: **Theory of Manual Drive Train/Transaxles**
Prefix and Course Number: **Auto 129**

Course Learning Outcomes:
By the end of this course, a student should be able to:
learn diagramming methods used in electrical wiring systems:

- Describe the purpose, types of applications, and operations methods pertaining to all types of transmissions and transaxles.
- Identify engine components and their functions
- Identify the sequence of reassembly of the components specified in the course outline.

Course Outline

I. Automatic Transmissions/Transaxles
   A. Causes of Noise/Vibration
   B. Fluids
      1. usage
      2. level
      3. condition
      4. types
   C. Pressure
   D. Lock-up converter Systems
   E. Vacuum control Systems
      1. electronic
      2. mechanical
   F. Electronic Sensors
   G. In-Car Transmissions
   H. Off-Car Transmissions
II. Pump and Converters
   A. Converters
      1. flex plate
      2. torque converter
      3. stator clutch
   B. Oil Pumps
      1. housings
      2. shafts
      3. rotors
      4. gears
      5. valves
      6. seals
      7. bushings
III. Gear Trains, Shafts, and Bushings
   A. Gear Trains
      1. function
      2. components
   B. Shafts
      1. function
      2. components

- C. Bushings
  1. functions
  2. components

IV. Friction and Reaction Units
- A. Clutch Assembly
  1. drum
  2. piston
  3. springs
  4. retainers
  5. seals
  6. friction/pressure plates
  7. types
     a. sprag
     b. roller

V. Steering Systems
- A. Manual Steering Gear
  1. components
- B. Power Steering Gear
  1. rack and pinion
  2. non-rack and pinion
  3. components