

# TTEN-120-ELECTRICAL & IGNITION SYSTEM 7 CREDITS

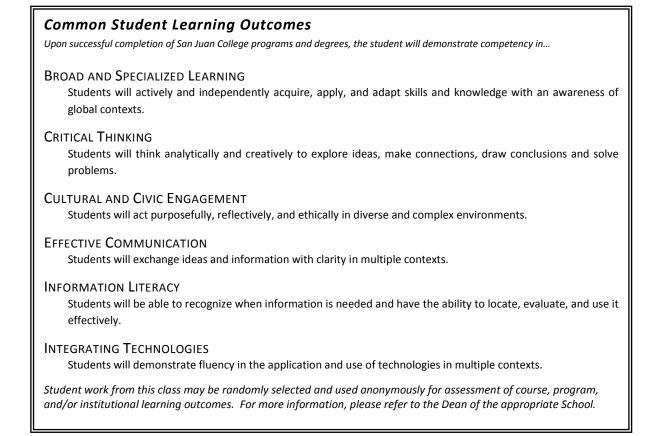
## **SYLLABUS**

## CATALOG DESCRIPTION

A study of the electrical and electronic systems found on Toyota automobiles. Emphasis is on basic circuitry, starting systems, charging systems, ignition systems, diagnosis and servicing the electrical components on current model Toyota vehicles. Instruction will include test equipment related to ignition, electrical, and electronic devices.

Co-requisites: TTEN-110

Semester Offered: Fall



#### **Course Learning Outcomes**

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

- 1. To provide the student expertise in the diagnosis and repair of current electrical and ignition systems on Toyota vehicles.
- 2. Completion of 100% of NATEF priority 1 tasks.

A copy of this approved syllabus is on file in the dean's office. Updated 2017-05-01

- 3. Completion of 85% of NATEF priority 2 tasks.
- 4. Completion of 75% of NATEF priority 1 tasks.

### **Course Learning Outcomes**

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

- 1. Work with automotive electrical systems utilizing the manufacturers' recommended safety procedures.
- 2. Demonstrate knowledge of electrical fundamentals by properly using an amp, volt, and ohmmeter. (digital and analog)
- 3. Diagnose circuits which have conditions such as: shorts, opens, and grounds.
- 4. Inspect electrical connections and repair them using accepted manufacturers' procedures.
- 5. Diagnose and repair various electrical circuits and components.
- 6. Diagnose and repair electronic level controls.
- 7. Test switches, fuses, and circuit breakers.
- 8. Remove and replace fuse block & associated assemblies.
- 9. Test a turn signal circuit.
- 10. Test instrument gauges.
- 11. Test specific gravity on a battery.
- 12. Perform a load test on a battery.
- 13. Properly charge a battery.
- 14. Perform a starter amp draw test.
- 15. Perform a voltage drop test on a starter system.
- 16. Perform a charging system output test.
- 17. Repair a no charge condition.
- 18. Remove and replace electronic control units.
- 19. Diagnose and repair solid-state ignition systems.
- 20. Demonstrate the use of an oscilloscope and identify four patterns.