

**Engineering Technology – Self-Service Device Technicians**

ASSOCIATE OF APPLIED SCIENCE DEGREE (AAS)

REQUIRED CREDITS: 63

DEGREE CODE: ETSelf-AA5

**DESCRIPTION**

The degree provides students with the necessary skills to assist in the planning, design, troubleshooting, and maintenance of various devices such as ATMs, kiosks, slot machines and related devices. Instruction includes network management systems such as player tracking/slot management systems or ATM Network Monitoring systems. The appropriate regulations, such as slot machines, related gaming regulations or ATM related banking regulations will be covered in each concentration. Key common and specialized components and sub-assemblies of these devices will be covered. For example, some of these components and sub-assemblies are random number generators, opto-couplers, coin comparators, dollar bill acceptors, and printers. Computers and networks that use these devices and slot machine gaming are addressed. This two-year program provides the student with the repair methods and procedures used in the industries supported by each concentration. Instruction takes place in a hands-on state-of-the-art environment.

**STUDENT LEARNING OUTCOMES**

- Demonstrate a working knowledge of the theory of operation of typical self-serve devices such as electronic slot machines, ATMs, and/or Kiosks; Pseudo Random Number Generators; ROM, PROM, EPROM, EEPROM and RAM; and stepper motors.
- Describe the operation of typical peripheral devices; the external features; the money handling assemblies; the modes of operation in devices such as the slot machine, ATMs, and/or Kiosks.
- Identify electronic circuits and components used in these devices.
- Demonstrate positive work ethics and interpersonal skills in a group environment and to deliver written and oral project reports.
- Characterize and troubleshoot the installation and operation of networks that support devices such as slot machines and computers.
- Demonstrate a working knowledge of personal computers and the embedded computers found in slot machines.
- Show an ability to independently analyze, troubleshoot, repair, construct, and/or design slot machines or other self-service devices.

**PLEASE NOTE** - The courses listed below may require a prerequisite or corequisite. Read course descriptions before registering for classes. All MATH and ENG courses numbered 01-99 must be completed before reaching 30 total college-level credits. No course under 100-level counts toward degree completion.

**GENERAL EDUCATION REQUIREMENTS (27 CREDITS)****MATHEMATICS (3 credits)**

Recommended: ET 111B Mathematics for Electronics Applications

**ENGLISH COMPOSITION (3-5 credits)**

See AAS policy p. 46 for courses

**COMMUNICATIONS (3 credits)**

Recommended: COM 115 Applied Communication

**HUMAN RELATIONS (3 credits)**

Recommended: HIST 106 European Civilization Since 1648

**NATURAL SCIENCE (8 credits)**

Required: EGG 131 and 131L and ET 131B

**FINE ARTS/HUMANITIES/SOCIAL SCIENCE (3 credits)**

Recommended: MUS 231 Recording Techniques I

**U.S. AND NEVADA CONSTITUTIONS (4-6 credits)**

Recommended: PSC 101 Introduction to American Politics

**SPECIAL PROGRAM REQUIREMENTS (36 CREDITS)****CORE REQUIREMENTS (30 credits)**

ACC 135B Bookkeeping I 3

CIT 110 A+ Hardware 3

CIT 112B Network+ 3

CSCO 105B Fundamentals of Voice and Data Cabling 3

CSCO 120 CCNA Internetworking Fundamentals 4

ET 132B AC for Electronics 4

ET 212B Digital Logic I 4

ET 238B Device Peripherals 3

ET 294B EET Capstone 3

**Elective #1 (choose 2-3 credits)**

ET 100B Survey of Electronics 3

ET 104B Fabrication and Soldering Techniques 2-3

**Elective #2 (choose 4 credits)**

ET 205B Power Supply Theory and Repair 2-3

ET 206B Video Monitor Theory and Repair 2-3

ET 289B Electrical Troubleshooting 4

**Elective #3 (choose 0-3 credits)**

IS 100B Core Computing Competency 0

IS 101 Introduction to Information Systems 3

**See Degree Plan on next page.**

- NOTE**
- Course numbers with the “B” suffix may be non-transferable for a NSHE baccalaureate degree.
  - Course numbers with the “H” suffix are designated Honors-level courses and can be used to fulfill equivalent general education requirements. For more information visit [www.csn.edu/honors](http://www.csn.edu/honors).
  - In no case, may one course be used to meet more than one requirement except for the Values and Diversity general education requirement (only AA, AS, and AB degrees) which may be used to fulfill the corresponding general education or emphasis requirement.
  - Students may elect to graduate using the degree requirements in effect at the time of matriculation, or when they declared or changed major or the current catalog. If a program is official after a student has matriculated, the student may choose the degree requirements of the new program. In no case may a student use a catalog which is more than six years old at the time of graduation.



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**FULL-TIME STUDENT DEGREE PLAN***Plan can be modified to fit the needs of part-time students by adding more semesters.*

<b>FIRST SEMESTER</b>	<b>Credits</b>
ET 111B Mathematics for Electronics Applications	3
ENG 100 or 101 or 113	3-5
CSCO 105B Fundamentals of Voice and Data Cabling	3
ACC 135B Bookkeeping I	3
ET 100B or 104B	2-3
<b>TOTAL CREDITS</b> .....	<b>14-17</b>
<b>SECOND SEMESTER</b>	<b>Credits</b>
COM 115 Applied Communication	3
ET 131B DC for Electronics	4
MUS 231 Recording Techniques I	3
CIT 110 A+ Hardware	3
IS 100B or IS 101	0-3
<b>TOTAL CREDITS</b> .....	<b>13-16</b>
<b>THIRD SEMESTER</b>	<b>Credits</b>
HIST 106 European Civilization Since 1648	3
ET 132B AC for Electronics	4
<b>TOTAL CREDITS</b> .....	<b>7</b>
<b>FOURTH SEMESTER</b>	<b>Credits</b>
CIT 112B Network+	3
ET 212B Digital Logic I	4
ET 238B Device Peripherals <sup>1</sup>	3
ET 205B or ET 206B or ET 289B	4
<b>TOTAL CREDITS</b> .....	<b>14</b>
<b>FIFTH SEMESTER</b>	<b>Credits</b>
Egg 131 and 131L	4
PSC 101 Introduction to American Politics	4
ET 294B EET Capstone	3
CSCO 120 CCNA Internetworking Fundamentals	4
<b>TOTAL CREDITS</b> .....	<b>15</b>
<b>DEGREE PLAN TOTAL CREDITS</b> .....	<b>63-69</b>

<sup>1</sup>Prerequisite ET 131B and 212B. Contact the Department of Applied Technologies for permission to complete this class in the same semester as the prerequisite (ET 212B) course.

