

Report : Assessment Cycle Details for : Electrician

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Workspace : Program Assessment Plans

Assessment Plan: 2018-2020 Assessment Cycle: Assessment Plan and Assessment Findings

Assessment Plan Template: Academic Program Assessment Plan Template

Report Generated : Friday, September 04, 2020

Measures and Findings

Electrician Outcome Set (2018-2020)

Outcome

SLO 1

Demonstrate proficient knowledge of measuring and layout with a standard tape measure.

Measure

Measure 1 (SLO 1)

DIRECT - STUDENT ARTIFACT

Course Alignment:

ELEC 1120

Acceptable Target:

At least 80% of students will show proficiency in using a standard tape measure and points of reference for layout of electrical apparatus.

Measure Description:

Performance Evaluation and Rubric - Layout and install boxes per attached drawing.

Findings

for Measure 1 (SLO 1)

Summary of Findings:

95.8% of students successfully completed objective.
(48 total students: 46 passed, 2 failed)

Target Achievement:

Exceeded

Analysis of Results:

The established target was met and exceeded. However, faculty reported some concern that the rigor of the assignment may not have been as strong as initially anticipated, which contributed to a strong pass rate. However, for those students who did experience struggle with the activity, it was typically related to challenges with basic skills (e.g. math skills, electrical concept fundamentals). Moving forward, difficulty of assignment could be increased to accurately assess where students are at. Also, more instruction time can be spent lecturing on electrical fundamental concepts or administer a pre-test at the beginning of ELEC 1120 course to determine

knowledge baseline.

Measure

Measure 2 (SLO 1)

DIRECT - EXAM

Course Alignment:

ELEC 1120

Acceptable Target:

At least 80% of students will identify measurements based on hashmarks given on written test.

Measure Description:

Written Exam - Identification of measurements on a ruler.

Findings

for Measure 2 (SLO 1)

Summary of Findings:

91.7% of students successfully completed objective.
(48 total students: 44 passed, 4 failed)

Target Achievement:

Exceeded

Analysis of Results:

Target exceeded. Students demonstrating proficiency were successful in reading a tape measure. Students who experienced difficulty with this measure struggled with having a basic understanding of math skills (e.g. understanding fractions). Using practical scenarios (e.g. pie section chart) during instruction/lecture time may help to improve student understanding of fractions in relation to reading a tape measure.

SLO 2

Understand and apply math skills as they relate to construction math and accurate measurements.

Measure

Measure 1 (SLO 2)

DIRECT - EXAM

Course Alignment:

ELEC 2460

Acceptable Target:

At least 70% of students will demonstrate the ability to add and subtract fractions.

Measure Description:

Written Exam - Add and subtract fraction sets

Findings *for Measure 1 (SLO 2)*

Summary of Findings:

96.4% of students successfully completed objective.
(56 total students: 54 passed, 2 failed)

Target Achievement:

Exceeded

Analysis of Results:

Target exceeded. Overall, a majority of students were able to successfully achieve this goal. However, the disconnect for some students seems to be navigating the relationship between mathematical and electrical concepts. Again, connecting the assignment to real-world/practical electrical scenarios would serve to strengthen student's understanding of electrical concepts.

Measure *Measure 2 (SLO 2)*

DIRECT - EXAM

Course Alignment:

ELEC 2460

Acceptable Target:

At least 70% of students will be able to demonstrate the ability to calculate square footage and watts per square foot on lighting demand.

Measure Description:

Written Exam - Calculate lighting load by building square footage

Findings *for Measure 2 (SLO 2)*

Summary of Findings:

98.2% of students successfully completed objective.
(56 total students: 55 passed, 1 failed)

Target Achievement:

Exceeded

Analysis of Results:

Target exceeded. Students received a substantial amount of coaching, assistance, and hands-on demonstration from the instructor which contributed to the high success rate. At times, however, multiple attempts were needed to demonstrate proficiency. Moving forward, the assessment/measure can be modified to provide more clarification/definition. Assignment should be catered to advanced students in the Electrician program.

SLO 3

Learn to perform all aspects of conduit bending.

Measure

Measure 1 (SLO 3)

DIRECT - STUDENT ARTIFACT

Course Alignment:

ELEC 1220

Acceptable Target:

At least 85% of students will make a back to back 90 degree bend at 24 inches

Measure Description:

Performance Evaluation and Rubric - Make a back to back 90 degree bend at 24 inches

Findings

for Measure 1 (SLO 3)

Summary of Findings:

97.0% of students successfully completed objective.
(33 total students: 32 passed, 1 failed)

Target Achievement:

Exceeded

Analysis of Results:

Target exceeded. A majority of students were able to grasp concept. Faculty reported that the measure was well-constructed and students are expected to succeed with this activity. However, assignment rigor can be increased through placing an emphasis on bend alignment. Moving forward, instruction can add an additional diameter of conduit so that students can demonstrate their knowledge using two different calculations.

Measure

Measure 2 (SLO 3)

DIRECT - EXAM

Course Alignment:

ELEC 1220

Acceptable Target:

At least 75% of students will be able to define an offset.

Measure Description:

Written Exam - Define an offset

Findings

for Measure 2 (SLO 3)

SLO 4

Develop knowledge and skills related lighting fixtures and takeoffs.

Summary of Findings:

97.0% of students successfully completed objective.
(33 total students: 32 passed, 1 failed)

Target Achievement:

Exceeded

Analysis of Results:

Target exceeded. For many students, this concept may seem somewhat remedial which is why a majority of students demonstrated proficiency. Moving forward, instruction and the measure could be enhanced by, in addition to defining offset, students could be asked to put three degrees of offset and list the multiplier of each.

Measure

Measure 1 (SLO 4)

DIRECT - OTHER

Course Alignment:

ELEC 1430

Acceptable Target:

At least 80% of students will be able to perform a material takeoff of the lighting fixtures specified in the provided drawing

Measure Description:

Performance Evaluation and Rubric - Perform fixture and lamp takeoff from provided drawing

Findings

for Measure 1 (SLO 4)

Summary of Findings:

95.1% of students successfully completed objective.
(41 total students: 39 passed, 2 failed)

Target Achievement:

Exceeded

Analysis of Results:

Target exceeded. Faculty reported that this is a performance exercise in which a majority of students were able to demonstrate proficiency. Moving forward, instruction can emphasize doing a double count to check for accuracy; as well as, review different types of fixtures and demonstrate how they may have symbol to decrease confusion between fixture types.

Measure

Measure 2 (SLO 4)

DIRECT - EXAM

Course Alignment:

ELEC 1440

Acceptable Target:

At least 75% of students will demonstrate the ability to read and understand ladder logic.

Measure Description:

Written Exam - Lighting fixture takeoff

Findings

for Measure 2 (SLO 4)

Summary of Findings:

97.7% of students successfully completed objective.
(43 total students: 42 passed, 1 failed)

Target Achievement:

Exceeded

Analysis of Results:

Target exceeded. Less coaching was required during instruction than anticipated, with most students grasping this skill well. Student engagement was also high. In addition to written test, students could be assessed on their practical ability by demonstrating how to wire the same schematic.

SLO 5

Understand and perform all aspects of multiple switching locations controlling luminaries.

Measure

Measure 1 (SLO 5)

DIRECT - OTHER

Course Alignment:

ELEC 1311

Acceptable Target:

At least 80% of students will demonstrate the ability to install and wire two 3 way switches controlling one light fixture.

Measure Description:

Performance Evaluation and Rubric - Installation and wiring two 3 way switches controlling one light fixture.

Findings

for Measure 1 (SLO 5)

Summary of Findings:

100% of students successfully completed objective.

(29 total students: 29 passed, 0 failed)

Target Achievement:

Exceeded

Analysis of Results:

Overall, students demonstrated success related to this measure. Student success can be attributed to instructor emphasis on wiring application. Moving forward, a four way can be added to this wiring scenario to allow students to further demonstrate competency.

Measure

Measure 2 (SLO 5)

DIRECT - OTHER

Course Alignment:

ELEC 1311

Acceptable Target:

At least 80% of students will be able to schematically draw three way switching applications

Measure Description:

Performance Evaluation and Rubric

Findings

for Measure 2 (SLO 5)

Summary of Findings:

100% of students successfully completed objective.
(29 total students: 29 passed, 0 failed)

Target Achievement:

Exceeded

Analysis of Results:

All students were successful engaging with this measure. Student success can be attributed to instructor emphasis on wiring application. Moving forward, a four way can be added to this wiring scenario to increase assignment rigor