

Co-Req Mech: Course Pairings for General and Mechatronics Education

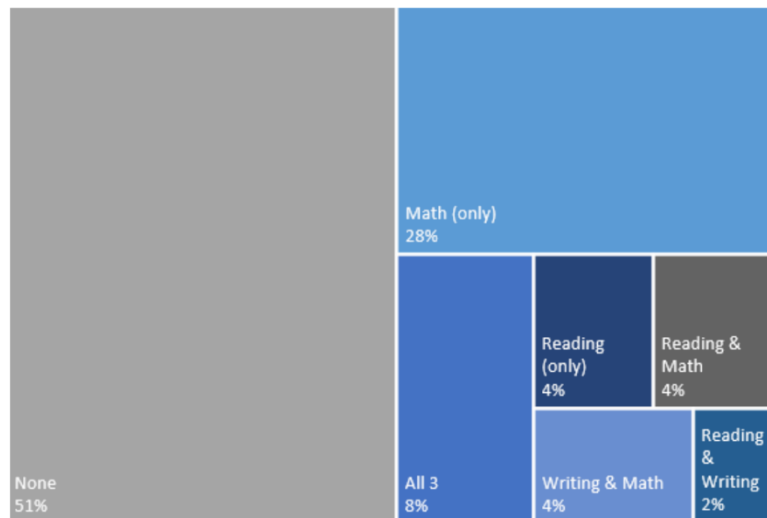
Project Abstract

This project is designed to increase the effectiveness of the Roane State Community College (RSCC) Mechatronics program by integrating the learning support or general education curriculum with Mechatronics courses in meaningful ways through education and industry design. The target audience includes two-year college students with the goal of increasing student graduation rates to supplement the number of degreed Mechatronics technicians. High school students are also part of the target audience and can participate in a Middle College program that allows them to graduate high school with an Associate of Applied Science degree. Industry input allows employers to shape Mechatronics graduates who have the knowledge, skills, abilities (KSAs) and business acumen required of tomorrow's employees. The purpose of this project is to combine industry and higher education inputs to produce proficient Mechatronics graduates who are performance-capable upon entering the workforce.

Our Students

Nearly 50% of RSCC mechatronics students required at least one remedial level course (reading, writing, mathematics) and 43% require remedial mathematics. Approximately 11% of students in the program are female and 98% identify their race/ethnicity as white; 35% of the students in the program are over 24 years old. Thirty-six percent of RSCC mechatronics students are Pell eligible.

The program has had 53 graduates since 2017.



Course Pairings

Algebraic Principles/Algebra Essentials (Learning Support Mathematics—3 credit hours remedial plus 3 credit hours college level) is paired with Motor Control (Sophomore-level mechatronics course for A.A.S. degree).

Mathematical Principles for General Studies (General Education Mathematics—3 credit hours college level) is paired with Process Control Technologies (Sophomore-level mechatronics course for A.A.S. degree).

Introductory Physics I (General Education Algebra-Based Physics—4 credit hours college level) is paired with Mechanics and Machine Elements (Sophomore-level mechatronics course for A.A.S. degree).