

Motlow is Closing the Gender Gap in Mechatronics

Motlow State Community College actively works to recruit females and minorities into high-wage, high-demand career fields like mechatronics.

LYNCHBURG, TN, UNITED STATE, January 14, 2022 /EINPresswire.com/ --Men vastly outnumber women majoring in most STEM fields in college. Gender gaps are exceptionally and needlessly high in some of the fastest-growing and highest-paying jobs like <u>mechatronics</u>, robotics, cyber defense, math, and health sciences. According to the National Girls Collaborative Project statistics, women represent only 28 percent of the workforce in science, technology, engineering, and math (STEM).



Victoria Rowell, a 2017 graduate of Motlow's mechatronics program.

As part of its <u>student success</u> and workforce development mission,

<u>Motlow State</u> Community College actively works to recruit females and minorities into highwage, high-demand career fields like mechatronics.

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Melissa Paz, mechatronics instructor at Motlow "I chose to get a degree in mechatronics because I was looking for a new opportunity to make money," said Victoria Rowell, a 2017 graduate of Motlow's mechatronics program. "Many things these days are automated, and I wanted to know how to fix them."

Rowell is one of a small, but growing percentage of women entering engineering career fields. Mechatronics Engineering is a multi-disciplinary field that includes mechanical, electrical, systems design, and controls engineering. Mechatronics technicians design computer-controlled electromechanical systems such as the robotics systems used in factories. It is a highly diverse field that allows technicians to have a strong foundation in many disciplines.

"When I was in college, my engineering program had only two women and 198 men," said Melissa Paz, mechatronics instructor at Motlow. She graduated from Tennessee Technological University in 1988 with a degree in Industrial Technology from the College of Engineering. Paz now trains students in mechatronics and robotic skills for them to have rewarding, high-wage careers. She strongly encourages women to join the ranks of upward mobility found in mechatronics and engineering.

"My degree replicates a lot of what Mechatronics is. The field is hands-on with theory. I learned a lot of different manufacturing technologies such as woodworking, foundry applications, welding, CNC Milling, and the upcoming technologies of programmable logic controllers (PLCs) and robotics. I also learned electrical, mechanical principles, and fluid power," she added.

NUMBER OF WOMEN IN ENGINEERING FIELDS IS GROWING



Melissa Paz, mechatronics instructor at Motlow.



Bethany Millican, a current mechatronics student at Motlow.

According to "Trailblazing women in engineering field reflect on what has

(and hasn't) changed" in the Washington Post, the percentage of women majoring in engineering

has grown from nine percent in 1979 to 21 percent today.

"I truly believe the slow increase in the number of females in STEM fields is because it is not traditionally a women's field. We need to introduce girls at a younger age to more STEM," explained Paz. "I have talked to middle school children about engineering, and you can see the girls act like it is not a typical career for them. Society has to change and embrace women in nontraditional careers."

Research has shown that career choice often begins in the middle school years and is influenced by parents, teachers, peers, and the media. Institutions like Motlow can positively change the perception of the technology professions with an intentional effort to influence parents, teachers, students, and children in their communities. <image>

Alexis Clark, current mechatronics student at Motlow.



Motlow Logo

"It is important to have diversity in the

mechatronics field," said Bethany Millican, a current mechatronics student at Motlow. "There is nothing physically stopping women from being able to do this job, so it is crucial to let that be known to make the field more attractive to females. If you are smart and competent, you are suited for mechatronics."

Motlow empowers women to achieve their highest potential in education and the workplace. Everyone has the same opportunities. We all benefit from increased diversity, greater creativity and innovation from a larger talent pool, more financial stability for families, and a more robust economy at all levels.

"In this field, students learn theory and then apply it in a lab designed to reflect real-world scenarios," said Paz. Before teaching, she worked for an automotive supplier where engineers designed, implemented, trained, and troubleshot the product line.

WHY SOME WOMEN CHOOSE MECHATRONICS

Students come to mechatronics for a variety of reasons. Female students encourage others to explore what the field has to offer.

"I like mechatronics because it is hands-on and is very interesting to learn what goes on behind the scenes, seeing certain processes and how things run. I enjoy learning about all the software and programming aspects of the field," said Alexis Clark, current mechatronics student at Motlow.

"When I was in high school, I was the only female in my welding class, and that can be hard because you get the sense that you cannot mess up at all. In some ways, it feels like you are representing all females in that field, and if you mess up, it won't be equated with just your abilities but with the ability of all women in that field," explained Millican. She completed a welding certification at the Tennessee College of Applied Technology (TCAT) before starting the mechatronics program at Motlow. "I wanted to know how the machines I used so much work on the inside."

Rowell echoed the sentiment about feeling intimidated but didn't feel that it should keep women from participating in the program.

"I started with a background in the automotive industry, but I have had classes with students who have no prior knowledge going in, who didn't even know the basics of tools, yet were still successful graduates," said Rowell. She had previously completed an autobody program at TCAT. "Two weeks after graduation from Motlow, I had multiple job offers."

Mechatronics is an all-encompassing term for a combination of engineering disciplines that create a well-rounded engineering technician. The term became globally utilized in the 90s with integrated coursework and certification.

"At Motlow, with just six classes, a student can get a mechatronics certification, known as Level 1 Certification. Level 2 is an Associate of Applied Science (A.A.S.) in Mechatronics or A.A.S. in Mechatronics with a Robotics Concentration. Certificate completers can start work immediately, or continue their education at Tennessee State University, Middle Tennessee State University, or the University of Tennessee in Chattanooga for a bachelor's degree," said Paz. "Our students typically enter the workforce to work as maintenance or engineering technicians."

"I am still new to the mechatronics field, so I am not 100 percent sure what I want to do, but I have seen Mechatronics careers in renewable energy, and I think that would be a pretty cool job to do," Millican said.

IS MECHATRONICS RIGHT FOR YOU? FIND OUT!

Learners should explore mechatronics degrees if they aspire to career opportunities where they can work with their hands, enjoy a lot of variety in their workdays, like to see visible results of

their work, and want jobs with great pay and good benefits.

"Companies are always looking for someone with mechatronics experience," said Rowell. "This field is a great opportunity to make good money and do something different each day."

Opportunities for women in STEM fields continue to expand. Motlow stands on the edge of that expansion through its mechatronics, robotics, automation, and engineering programs. Find out more about how you can kick-start your mechatronics career. Visit motlow.com/mechatronics or email mechatronics@mscc.edu.

Tennessee's Community Colleges is a system of 13 colleges offering a high-quality, affordable, convenient, and personal education to prepare students to achieve their educational and career goals in two years or less. The system offers associate degree and certificate programs, workforce development programs, and transfer pathways to four-year degrees. For more information, please visit us online at tbr.edu or visit Motlow at mscc.edu.

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