

# Mechatronics Robotics & Machine Design

## (Vance Granville Community College)

**Who:**

10<sup>th</sup>, 11<sup>th</sup> & 12<sup>th</sup> grade students

**What:** The Robotics & Machine Design Certificate is a Career & College Pathway (CCP) and prepares students with basic course work in mechanical assemblies and maintenance, electronic circuitry and circuit analysis, hydraulic circuit and assembly operation, computer-aided solid modeling, simple mechanical component design and an introduction in to robotic operation and programming. The students will learn about the considerations to be made in creating robot parts as well as the motive forces and controls in automated machinery.

**When:**

Course Prefix	Course Title	Credits	Availability
ATR 280	Robotics Fundamentals	4	Fall Semester @ FLA, Spring Semester @ South Campus
ELC 131	Circuit Analysis I	4	Fall Semester @ South Campus, Spring Semester @ FLA
DFT 154	Intro to Solid Modeling	3	Spring Semester @ South Campus or Online
HYD 110	Hydraulics/Pneumatics I	3	Spring Semester @ South Campus
MEC 130	Mechanisms	3	Fall Semester @ South Campus

**Where:**

VGCC will offer ATR 280 and ELC 131 during Fall and Spring semesters respectively during 4th period at FLA. The other classes that are part of the certificate are available to FLA students in the late afternoon starting at 4:00 PM at South Campus or online through Moodle. One or more of these courses will likely be available during summer mini-terms. These are 8-week classes that are very intense that run from late May until late July. We will be offering DFT 154 online in the Summer mini-term this year.

**How:**

Please review more information at the following links...

About the Mechatronics Robotics & Machine Design Program

<https://www.vgcc.edu/program/robotics-machine-design-certificate/>

About Career & College Promise & Eligibility Information

<https://www.vgcc.edu/high-school/>

Let Mrs. Jackson know if you would like to enroll in the next course in the Mechatronics Robotics and Machine Design Program. She will send you step by step instructions on how to register with VGCC.

**Chanta Jackson**

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### **Information from the professors:**

Online classes can be challenging. Parents should be advised that online classes will generally require the installation of 3<sup>rd</sup> party software. Students need to have access to a Windows computer. Modeling software often requires a Windows computer with a decent graphics chip. All classes will require the use of Moodle, the college's learning management system. Enrolled students will be given account information to log into Moodle and into their VGCC e-mail and other accounts. Some classes at South Campus may be hybrid courses, which will require a lot of online work with occasional face-to-face meetings. Students who take all five classes will be awarded a Certificate in Robotics and Machine Design by the college. All courses taken in the pathway can be used toward earning a two-year degree in Mechatronics Engineering Technology at VGCC.

\*\*\*Right now VGCC is only approved to offer ELC 131 Circuit Analysis I at Falls Lake Academy. The process has been initiated to offer ATR 280 Robotics Fundamentals at FLA campus as well.