

FRC Workshops – November 10th- VCU School of Engineering West Hall, Richmond

C++ Programming – Morgan Clemons, FIRST Robotics CSA and mentor for team 1080. For this session some basic programming experience will be assumed, but even programmers with minimal experience should be able to keep up and learn the basics in this workshop. Taught as a single session part a and part b. It is acceptable for programmers to attend only one section.

Part A. basics of writing and deploying code to get your robot moving on the field. A basic introduction to C++ control structures and familiarize participants with motor controllers and power regulating devices.

Part B. Taking teams already comfortable with basic robot code to next level. Exploring intelligent control of robot subsystems, driving autonomously, how to utilize encoders, switches, and sensors.

Chairman's –Blue Cheese Mentors, FRC team 1086 will be on hand to offer tips on how to submit, prepare and present for the Chairman's Award. Blue Cheese will help you make your Chairman's even "Cheddar"!

Coach/Mentor Roundtable – These sessions are good for new, current and potential coaches and mentors to discuss challenges teams are facing and possible solutions as well as ways *FIRST* Chesapeake teams can assist each other. Coaches and mentors will be able to develop one-on-one connections which can be utilized throughout the upcoming season and beyond.

Control System Troubleshooting "How not to need a CSA this season" Morgan Clemons CSA and Mentor for 1080, Learn how to plan and diagram your robots wiring to maximize functionality and minimize hassles throughout the season. Presenter will walk you through electrical layout, wire routing and proper labeling. Learn how to troubleshoot your robots control system to isolate issues and make on the fly repairs to get you back on the field in time for your next match.

Inspection and Bumpers – RoboHawks Mentor, FRC team 346, Are you baffled by the inspection process and bumper assembly? Discover how to successfully navigate thru the inspection process in a timely manner and the rules and guidelines associated with bumpers, different techniques and fabrics used to cover the frame perimeter of the robot.

Inventor –

Inventor for Beginners- Students from TALON, FRC Team 540, Learn to use CAD software provided to *FIRST* team members. Will discuss general CAD design concepts to assist in development of a virtually assembled robot. Initial software usage including basic sketch and extrude commands, as well as material assignment and determination of mass properties.

Will include discussion of a data library as well as use of KOP files in design.

Inventor for Intermediate- Students from TALON, FRC Team 540, Discussion to include assignment of materials, BOM and drawing creation. Assembly techniques, including constraint and joint, will be reviewed. Time saving tips as well as data library and use of vendor supplied files will be presented. Variations on design and parallel design development will be reviewed.

Java for Beginners- Students from Blue Cheese, FRC Team 1086, This will be an introductory course in Java Command Based programming. The discussed topics will be advantages and disadvantages, program structure and the basic files, coding a robot to drive, and driving in autonomous.

Java Intermediate- Students from Blue Cheese, FRC team 1086 This course will cover topics like creating reusable commands, command groups, sensors, and advanced commands.

Motors and Drive Train –Presenter pending

This session will explore various Chassis & Drive Train configurations; including Transmission & Motor selection available to use on FRC robots. Ideas will be shared for the benefits of each and how to implement them to coordinate with your team strategy.

Safety –Shyanne Rankins

Learn what it takes to keep your team safe during build season and at competitions. This is important training for any team member, mentor or team Safety Captain.

Scouting 101 – Presenter pending, One of the most important competition aspects of FRC, scouting other teams, is too frequently overlooked. This workshop will provide teams with tips and resources to develop a great strategy built on great scouting.

Social Media Strategies Mentors from Blue Cheese, FRC Team 1086, In this workshop, participants will learn how to create sustainable social networking and social media crowdfunding accounts. We will set up and customize social media accounts on Facebook, Twitter, etc. Learn the most efficient and effective strategies to broadening your professional social network!