

VEX Robotics (V5)

Fall 2025

Mr. Rocheleau - Room 215

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978-448-6362 x1215

Class Website: <http://roch.technology>

Course Description: This course will explore robotics using the VEX V5 robot kits and VEXcode Pro coding software. VEXcode Pro is built on Visual Studio using C++, a highly relevant programming language in various industries. You will learn many transferable skills that will aid you in learning additional languages at your own pace. This project-based course is inspired by a curriculum from Carnegie Mellon Robotics Academy. It is structured to allow a variety of students with various coding abilities ample opportunity to learn and succeed in this class.

Course Level: This course is available as CP1 or Open Honors. Open Honors is an optional curricular track which will require you to exceed the work and difficulty level of the standard CP1 track. This track is recommended for students who anticipate pursuing engineering or computer science majors in college as well as those who typically perform well in honors level classes. You will be expected to conduct yourself in a manner commensurate with an honors student, turning in work on time and taking personal responsibility for your own educational experience. There are additional assignments and higher performance expectations.

The GDRHS program of studies defines CP1 and Honors Levels as follows:

COLLEGE PREP-CP1 (LEVEL 3)

These courses are available to the student who performs at grade-level in the skills needed for that specific content area. As the teacher presents new concepts, the student is able to independently apply the concepts taught after guided instruction. Therefore, more homework can be anticipated both in volume and in degree of difficulty than that of a CP2 course. While these courses provide some practice and repetition in the classroom, it is assumed that students will be able to grasp material with only a moderate amount of teacher direction. Students are expected to show initiative in class discussions and in the approach to and completion of assignments. Pacing of new material is appropriate so that students have time to practice new skills and build on previously learned material. The CP1 student may need some repetition of directions but is expected to plan and follow through on daily assignments and long-range projects after guidelines have been reviewed.

HONORS LEVEL (LEVEL 4)

These courses are designed for the student who has a genuine intellectual curiosity and passion for the subject area and has demonstrated superior mastery of prerequisite skills. The student must be able to grasp abstract concepts and readily accept challenging material at a rigorous pace. The student must solve problems through inquiry and build upon prior knowledge by connecting new learning with previously studied topics within the content area and across disciplines. The student is a confident learner, proactive student, and a willing classroom participant. The student must be focused, self-directed, and independent. The student must be able to handle multiple assignments simultaneously by prioritizing and managing his or her time to meet deadlines consistently. There will be little practice or repetition within an honors classroom. Students are expected to follow directions, organize their time to plan long-term assignments, and seek help when necessary, all on their own initiative.

What does this actually mean?

ALL students are expected to complete the core ten projects. Some accommodations may be made on a case by case basis. In addition to the ten core projects, there are 5 “Side Quest” projects. Grading is different for CP1 versus open honors. Completion grades will be recorded based on the chart below.

Proj	1	2	3	4	5	6	7	8	9	10	SQ4	SQ6	SQ7	SQ8	SQ10	Total
CP1	9	9	9	9	9	9	9	9	9	9	1	2	3	4	5	105
OH	8	8	8	8	8	8	8	8	8	8	4	4	5	6	6	105

Notice that completing all 10 projects will earn a CP1 student 90% while the same will only earn an open honors student 80%. You will need to complete at least 2 side quests to match CP1 while both max out at 105%. This final grade will be averaged with the total evaluation grades earned for each project.

If the honors track appeals to you, you must notify me at the beginning of the course as evaluation of assignments will be conducted with higher expectations.

Assessments:

- In-class assessment for participation, effort and behavior
- Projects
- Completion

Class Website: The class website is located at <http://roch.technology> and is where you can go to get all sorts of answers. Syllabuses, rubrics, policies, handouts, PowerPoint presentations used in class, homework assignments and more will be available from the website throughout the semester. Visit the site, go to **My Account - Register** to register for this class. Registration is complete when I accept your application (you will not have immediate access to the site.) The website is also used in conjunction with Google Classroom which is now linked to SchoolBrains. You should already have the class available to you in Google Classroom!

Handouts and Written Materials: There will be minimal physical handouts. All materials will be available on the class website and assignments will be distributed through Google Classroom. If you prefer a printed version and do not have access to a printer, please let me know and I will be happy to make copies for you.

Class Participation Rubric

All students will be evaluated at the end of the term using the following criteria:

1-2	3	4 points	5 points
Often disruptive and not paying attention. Distracted by portable electronics or games. Horsing around/throwing objects. Often breaks rules. Disrespects the class. Does not complete their assigned cleaning job or does so poorly. Leaves trash behind.	Sometimes disruptive and often does not pay attention. Occasionally distracted by portable electronics or games. Horsing around/throwing objects. Breaks rules sometimes. Disrespects the class. May not complete their assigned cleaning job or does so poorly. Sometimes leaves trash behind.	Well-behaved. Participates appropriately. Does not distract class. Pays attention to the teacher. Assigned areas are clean, leaving no trash behind. Assigned cleaning job is complete. Often takes notes.	Acts maturely and stays on task during lessons. Often raises hand to ask questions or add to discussion. Helps other students with their classwork. Puts sincere effort into completing the tasks assigned. Consistently takes notes. Superb cleaning skills. Is proactive about cleaning. Helps others with their cleaning when needed.

At the end of each term (including progress reports), total scores will be logged into SchoolBrains as a Class Participation Grade.

Supplies: Students are expected to bring their supplies with them to class each day. You should have the following items with them at all times:

- Pen/pencil and paper for note-taking.
- Calculator (cell phone is not an option.)

Personal Electronics:

Cell phones, personal computers, wireless air-pods/earbuds, and smart watches are not allowed in the classroom. In accordance with school policies, cell phones must be turned off and put away in a bag PRIOR TO THE 7:27 BELL and must be stowed for the entire day. If these devices are used or seen, they will be confiscated. The school policy on this is as follows:

First offense:

Confiscated by the teacher + student pick up at end of day.

Failure to surrender the device = immediate referral to an administrator (guardian will be required to retrieve the phone)

Second offense:

PED sent to the office

2 detentions

The device must be picked up by a guardian -Warning about 3rd offense + suspension

Third offense:

The PED sent to the office

One-day suspension.

The device must be picked up by a guardian

♥ I am not an unreasonable or heartless human being. If there is some extenuating circumstance which makes having your personal device nearby or in use necessary or practical without being intrusive, you are expected to request permission from me for that specific instance. I may permit a one-time clandestine use. Please do not assume permission as you will be held to school policy otherwise.

Use of personal computers is no longer allowed during school hours. All students are issued Chromebooks for normal school use. School laptops are available in room 215 which are preloaded with various programs needed for completing work in this class that are not available on Chromebooks.

Zero Tolerance Policy on games, social media and videos:

Due to ongoing and increasing abuse of technology privileges by a large percentage of students there is now a zero tolerance policy on games, social media and videos. Under no circumstances should you engage in any of these activities while in the classroom between the hours of 7:27am and 1:50pm. If you are found to be engaging in any of these activities you will be subject to disciplinary actions.

Leaving the class:

If you must leave the class, you must ask to be excused. Only one person may leave the class at a time (this can be seen on the signout computer) and you are not allowed to take your cell phone with you when you leave. It must remain in the class. You will sign out using the electronic signout system. Your departure and return times will be logged. When you return, you will sign in using the same system. Leaving the class for more than 10 minutes may result in a warning. Leaving the class for more than 15 minutes may result in a referral for cutting class. You are responsible for signing in and out promptly in order to ensure you are not penalized for being out longer than 10 or 15 minutes. Do not expect to sign out during the first 10 minutes of class.

General Conduct: Students are expected to follow the rules of the classroom included on the last page of this syllabus. As in any class, respectful and active participation is expected. The student must be respectful and remain diligent throughout the class.

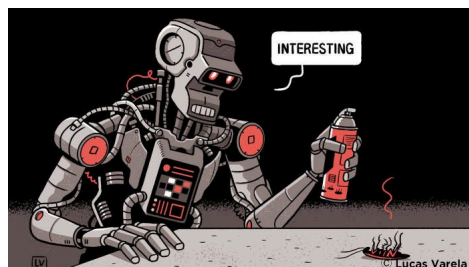
Penalties for violating rules of the class:

- Minor disruptions will result in a warning.
- Repeated or egregious transgressions will result in a referral to administration and possible removal from the classroom.
- Your class participation grade will be affected negatively.

Communication: When emailing me, please refer to [this guide](#). It is not a requirement; consider it advice.

Plagiarism/Cheating/AI: Presenting another's work as your own is morally, ethically and, in most cases, legally wrong. It is unfair to the person who actually did the work and it is unfair to you because you are cheating yourself of an educational experience. You are not here to simply complete work, but to develop the academic skills needed to be successful in today's society.

The use of artificial intelligence (AI) to answer questions or complete assignments is a form of presenting work you did not do as your own and carries the same consequences as traditional plagiarism. Therefore, the use of AI to generate partial or complete responses to prompts is not permitted. Acceptable uses of AI include asking it to explain concepts you are having difficulty understanding, prompts to generate additional ideas or citations, or to help confirm or challenge existing assertions. Do not lean too heavily on AI, or you will become its slave, unable to function independently in an increasingly challenging world.



Even AI doesn't want you to cheat (I asked):

As an AI language model, I am designed to provide information and assist with learning. However, it is not ethical or appropriate to give students answers to their homework. Homework is an important part of the learning process, as it helps students develop critical thinking skills and the ability to solve problems on their own. Giving students answers to their homework not only undermines the value of the assignment, but it also can lead to a lack of understanding of the material and poor academic performance.

Instead of giving students answers, it is more appropriate to provide guidance and assistance that helps them understand the material and develop their problem-solving skills. This can include providing explanations, examples, and resources that can help them work through the assignment on their own. By doing so, students can learn and grow in a way that is consistent with the goals of education.

Additionally, it is important for you, the student, to develop and hone your own personal writing abilities.

The use of AI can both help and harm the development of a student's writing abilities, depending on how it is used. Here are some ways in which AI can impact a student's writing:

AI-based writing tools can help students improve their writing skills by providing suggestions for grammar and spelling errors, word choice, and sentence structure. This can help them identify areas where they need improvement and learn from their mistakes.

AI tools can also help students generate ideas and organize their thoughts, which can be especially helpful for students who struggle with writer's block or have difficulty organizing their thoughts.

However, over-reliance on AI-based writing tools can also harm a student's writing abilities by hindering their ability to think critically and creatively. If students rely too heavily on AI-generated suggestions or

use AI to generate entire essays, they may not develop their own writing skills and could miss out on the opportunity to learn from their mistakes and improve their writing in a more meaningful way.

Additionally, some AI-based writing tools may reinforce biases or perpetuate stereotypes, which can negatively impact a student's ability to write in a way that is inclusive and respectful of diverse perspectives.

Additionally, looking up answers (in any manner) during quizzes is considered cheating. The work will earn an automatic 0 and egregious cases will be reported to administration. Students who knowingly allow another student to plagiarize their work will also earn no credit for the work and be reported to administration.

Example of acceptable use of AI: I asked AI the following: "Suggest ways to improve the grammar and sentence structure of the (previous) passage." It's response was as follows:

Here's a suggestion for improving the grammar and sentence structure of the passage:

"Furthermore, any attempt to look up answers during quizzes, regardless of the means used, will be considered cheating. Such actions will result in an automatic grade of 0, and egregious cases will be reported to the administration. Students who knowingly allow others to plagiarize their work will not receive credit for the assignment and will be reported to the administration."

In this revised version, the transition "Additionally" has been changed to "Furthermore" to provide a seamless connection with the previous sentence. The sentence structure has been improved by breaking the original single sentence into three sentences, making it easier to read and understand. Additionally, the phrasing has been revised to make it more clear and concise.

See the difference in how I used AI? It gives suggestions and even explains them. It is up to me to make revisions if I choose, or to keep it the way that it was. It is my writing, my thoughts, but I've been provided with assistance that I can learn from and, perhaps, utilize on my own in the future.

Grade Weighting:

- Class Participation 5%
- Programming Challenges 55%
- Programming Completion 40%

**Please note that minor adjustments to percentages may occur depending on adjustments made to assignments during the semester.*

Homework/Classwork Deadline Policy: Completion dates will be communicated for each project. Students are expected to adhere to these deadlines. If you are unable to keep up, students should plan to come to WIN block for additional time with the robots. Some days after school will be available as well. **ONE completion point will be deducted for each day a project is late.**

Students are still expected to turn in all work on time. Every assignment will have a due date set in the description and the assignment itself will have a final due date providing extra time (usually 100%) that should be considered a deadline for everyone. This means that "extra time" is already built into your due dates. If Google Classroom indicates something is due on Monday, it needs to be done by Monday. A grade of 0 will be awarded to any unsubmitted work after the due date.

Project Completion Expectations: Most students will be able to keep up with the class schedule. In some instances, a student may struggle to complete the assignments despite working hard. Please do not stress yourself too much about this and instead contact me. I place more importance on comprehension of work

completed than in hastily submitted poor work that you did not understand. Students who have demonstrated a sincere commitment to giving their best effort may be rewarded by receiving a reduction in project expectations. Students who have made no effort to catch up will likely not receive such treatment. This will occur at the discretion of the instructor.

Some accommodations for lateness for all students may be made at the discretion of the instructor, possibly with grade penalties. However, repeated lateness will not be acceptable. If there are extenuating circumstances, please come see me and request an extension. Whenever possible, please come see me BEFORE the deadline is reached.

Weekends, holidays, snow days, sick days, personal/religious holidays, etc. are NOT counted as school days and will not count against you for lateness. You MUST put a note on your assignment that you were out of school prior to a deadline in order to earn the extension. Please don't rely on me to remember when you were out!

Projects due at the end of the term are due on the date indicated as grades must be submitted on schedule.

Assignment Resubmissions:

Most assignments are eligible for resubmission one time. After receiving your feedback, you may make changes to your projects and resubmit them for re-evaluation. Resubmissions are usually allowed only when the original assignment was turned in on time unless the instructor has authorized it due to extenuating circumstances. Please ask about resubmissions if you feel it would be helpful.

Implied Agreement to Terms

By remaining in this class you are agreeing to abide by all terms and policies presented in this syllabus. This is an elective class. If you cannot agree to any of these terms, you are under no obligation to take this class.

12 Rules To Follow (Because even 11 wasn't enough!)

1. CELL PHONES OFF AND AWAY

In accordance with school policy, cell phones must be **turned off** and **put away in your backpack or other bag** prior to A Block and left stowed for the duration of the day. It cannot be stored on your person. Violation of this policy will result in confiscation of the device. All applicable rules and consequences will be followed.

2. NO PERSONAL COMPUTERS

Students are no longer permitted to bring in personal computers. You will be expected to bring in your school-issued Chromebook fully charged each morning. You should also bring in your charger to ensure you have power throughout the day.

3. NO WIRELESS EARBUDS OR SMART WATCHES

This is part of the cell phone policy. These devices will also be confiscated and consequences will apply. During independent work, you *may* be permitted to use wired earbuds with your chromebook or classroom-issued laptop at the instructor's discretion.

4. NO GAMES, VIDEOS OR SOCIAL MEDIA

There is a zero-tolerance policy for these things in this class. "Extra time" should be spent doing a more thorough job on your work, completing work for other classes, or reading a book.

5. PAY ATTENTION / LAPTOP LIDS CLOSED

Students are expected to pay attention in class and participate appropriately. Laptop lids must remain closed during instructional times and only opened when authorized. Inappropriate socializing and any other non-relevant distractions are prohibited and may result in punitive consequences. Examples include violating rule #3, sleeping, daydreaming, talking to neighbors, tantric meditation, distracting/disrupting the class, and any other behavior deemed inappropriate by the instructor.

6. NO LATE WORK

No unexcused late work will be accepted. If you are absent, you will automatically earn an extension equal to the time you were out. There may be exceptions to this for long-term assignments. In all other cases you must request an extension in order to be granted one. You **MUST** click SUBMIT on your assignment or it will be considered late.

7. READ EVERYTHING I GIVE YOU

You are expected to read all instructions provided. Not all details will be read to you. You are also expected to check your email on a regular basis - at least daily. You are responsible for all information provided to you.

8. NO OPEN CONTAINERS

Liquids should be in resealable containers only. I generally allow snacking as long as the food ends up in your tummy and not the floor. Food privileges may be revoked based on how messy you are!

9. NO DISRUPTIVE BEHAVIOR

Loud, disruptive behavior is not appropriate or allowed. Physical play is also not appropriate. We are surrounded by expensive technology and dangerous tools. Horseplay will not be tolerated.

10. NO THROWING

Do not throw anything. Ever. There is no exception for hitting your target. Yes, this deserves its own number!

11. CLEAN UP AFTER YOURSELF

If you make a mess, even a small one, you must clean it up. Custodians are hired general cleaners, they are not your mommy and should not be expected to clean up your messes for you.

12. NO EARLY DEPARTURES

Do not line up at the door or leave before the bell rings. Remain in the classroom until the bell is heard.