**Roanoke Valley Governor’s School for Science and Technology  
Dual Enrollment/Advanced Placement Accelerated Calculus BC**

**Syllabus 2023-2024**

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1. **Course Information**
   1. **Course Description**

AP Accelerated Calculus BC provides motivated and talented students a unique opportunity to cover the AB and BC calculus content in one year. The major themes are limits, continuity, derivatives, optimization, related rates, integration techniques, series and approximation, parametric and polar functions, multivariable functions, differential equations, and real world modeling of scientific phenomena. Students are expected to obtain a qualifying score of 3, 4, or 5 on the AP Calculus BC exam at the end of this course if they take the Advanced Placement exam.

Students have the option of dual enrolling through Virginia Western community College. They may earn a total of 8 credits by successfully completing both semesters of this course. First semester correlates with Virginia Western’s course: MTH 263 (4 credits) and second semester correlates with Virginia Western’s course: MTH 264 (4 credits).

**Gifted education strategies**

* 1. **Understand the connections** between various mathematical representations: graphical, numerical, analytical, and verbal
  2. **Communicate** mathematics both orally and in well-written sentences, including being able to explain one’s solutions to problems
  3. **Model** a written description of a physical situation with a function, a differential equation, or an integral (problem-solving)
  4. Use **technology** to help solve problems, experiment, interpret results, and verify conjectures
  5. Determine the **reasonableness** of solutions, including sign, size, relative accuracy, and units of measurement
  6. Develop an **appreciation** of calculus as a coherent body of knowledge and as a human accomplishment
  7. **Text, Printed Resources, and Media Resources**

1. Hass, Joel, Maurice D. Weir, and George B. Thomas, Jr. *University Calculus Early Transcendentals*. 3rd ed. United States: Pearson, 2016.
2. Hockett, S. O., & Bock, D. (2010). *Barron's AP Calculus, 10th Edition.* Ithaca: Barron's Educational Series, Inc.
3. Microsoft Office, MathType, Python 2.7.12, GeoGebra
4. TI-83, TI-83+, TI-84, TI-84+, TI-89 Calculators and Guidebooks

**\*SEC Notification:** Per Virginia Code (§ 22.1-16.8), parents must be aware of the use of any instructional materials with explicit content.  No explicit materials are used in this course

1. **Grading Policy**
   1. **Grading Scale**

The standard grading scale will be used in this course (90’s – A, 80’s – B, etc.). This is a college-level mathematics course and the grading will be incredibly strict. You should utilize any and all evaluation opportunities to your advantage. **Extra credit will NOT be given in this class, period.**

1. **Types of Evaluations**
   * 1. **Semester Exams:** At the end of each semester, a comprehensive exam will be given on a scheduled exam day. These exams will cover **all** material covered during the semester.
     2. **Tests:** Tests will be administered after several integrated competencies have been mastered. These tests are designed to help the students learn to think about the broad connections between topics.
     3. **Quizzes:** Quizzes will be given to assess for connections between objectives. You will find a list of competencies and enabling objectives on-line that you are expected to master in this course.
     4. **Labs/Projects:** A lab is a problem or set of exercises designed to make use of current technology and/or ideologies requiring the use of higher order thinking skills. It will require a written lab report. Labs are designed to be completed independently or in groups based upon instructions. These labs may involve mathematical modeling, data collecting, statistical analysis, and the use of computer software and/or graphing calculators. Often, projects assigned will enhance your understanding of the integration of mathematics into other disciplines. Since many lab and project assignments will require you to work in a cooperative learning environment, your participation or lack thereof directly affects your learning experience as well as the other members of your group.
     5. **Homework/Practice/Checks for Understanding:** Practice is an integral part of this course and it is extremely important that it be completed. You are expected to check answers in the back of the book before coming to class and make note of specific questions/problems you would like to review. Your practice problems and tasks will be checked on a regular basis by various methods, including, but not limited to, asking you to exhibit proof that you worked on the assignment, asking you to write down your solution and work on an assigned problem and turning it in, or asking you to self-evaluate, etc.
        1. All assignments are due at the beginning of class. Homework is graded for completeness, corrections, and timeliness. If a student is absent, it is due upon the student’s return. Homework may be submitted one day late for half credit.
        2. Students may collaborate on any homework or class work assignment unless otherwise specified.
        3. As this is an equivalent college-level course, the expectation is that you will complete all assigned practice problems. With that said, they are not a major component of your course grade as will be the case in most college math courses.
   1. **Semester Grade Determination**

**Semester 1 Semester 2**

|  |  |
| --- | --- |
| **Category** | **Weight** |
| Tests | 40% |
| Quizzes | 30% |
| Labs/Projects | 10% |
| Homework | 5% |
| Exam | 15% |

|  |  |
| --- | --- |
| **Category** | **Weight** |
| Tests | 40% |
| Quizzes | 30% |
| Labs/Projects | 15% |
| Exam | 15% |

* 1. **Final Grade Determination**

The final grade is the average of the 2 semester grades. Students who fail to maintain a B average or above will be subject to the RVGS probationary policy.

1. **Class Procedures**
   1. **Absences and tardies:** The policy in the RVGS student handbook will be followed.
   2. **Make-up Work:** Course activities, assignments, and the course calendar will be available on Moodle or through the RVGS website. Please check Canvas and your Governor’s School email account daily. If you are not in school, you should check the course calendar and Canvas first for information and assignments. You should make every attempt to complete these assignments and submit them upon your return.
   3. **Late-work policy:** Late assignments (with the exception of homework which is not accepted late) will lose 10% credit for each day late and no assignments will be accepted more than **four days** late, at which point you will receive a zero. Group assignments are to be submitted on the due date regardless of whether all group members are present on the due date. Each day you are at Governor’s School counts as one day, even if you do not have my class that day. In other words, if you wait until you are in my class again, you will lose credit for each school day that has passed since the assignment was due, not for each class meeting that has passed.
   4. **Cheating:** The policy in the RCPS student code of conduct will be followed.
   5. **Technology Policy:** The RCPS Acceptable Use Policy and the RVGS student handbook policy will be followed.
   6. **Cell phones:** The policy in the RVGS student handbook for cell phones and electronics will be followed. If parents need to contact a student during class, they should call the front office.
   7. **Extra help:** It is inevitable that there will be times when you may not grasp a concept the first time. Extra help is always available, but it is up to you to seek help as soon as possible. The following options are available to you, but you should be sure to make arrangements with your teacher to make sure that she is available at a given time:
2. Before School (8:00-8:25)
3. After School (including 11:00 – 11:30 am for AM students; 3:35 – 4:00 pm)
4. During Lunch (arrangements must be made in advance)
5. E-mail: Emails received before 3:30 pm Monday through Friday will be answered in a timely fashion; emails received outside these times will be answered at the teacher’s earliest convenience.

***Note: If you choose to dual enroll this course through Virginia Western Community College you have access to their campus resources which include but are not limited to the Brown Library and tutors. Please refer to the Virginia Western website for more information: www.virginiawestern.edu***

* 1. **Parent/Student Vue:** Grades are available through Parent/Student Vue.. For assistance with accessing your grades, please contact the school counselor. If you have questions regarding a particular grade entry, please let your teacher know as soon as possible.
  2. **Interim Reports:** A hard copy of your current grade will be given to you to take home three times during each semester (see dates on the school calendar). The interim report is a snapshot of the current class average. Please feel free to discuss your report with the teacher at any time.
  3. **Student Performance Strategy:** Interventions will be implemented at the teacher’s discretion or in the event that the student's grade falls below an 80.
  4. **Graphing Calculators:** These are an integral part of this course. They will be used, as necessary, in conjunction with the material being taught and should be brought to class every day. In the event that you can’t secure one of your own, please see me to discuss options that are available to you.

**All students must fill out an online Virginia Western Application and MUST have an EMPL ID number to be enrolled in any dual class.**

***Virginia Western Community College Policies***

**Academic Dishonesty:**

Academic dishonesty is not tolerated at Virginia Western; violations of this policy can result in disciplinary actions, including suspension or expulsion from the college.  According to The Virginia Western Student Handbook, academic dishonesty includes, but is not limited to, the following:

\*  Cheating on a test by giving, receiving, offering, and/or soliciting information.

\*  Buying, selling, stealing, or soliciting any material purposed to be a part of an assignment.

\*  Plagiarism (taking and using the ideas of another as one’s own).

\*  Unauthorized use of materials, notes, or other aids during a test.

For more information, read the “Conduct” section of the VWCC Student Handbook

**ADA Statement:** Questions or concerns about the college’s and student’s rights and responsibilities regarding persons with disabilities may be directed to the 504/ADA Coordinator.  The Americans with Disabilities Act of 1990 (ADA) and section 504 of the Rehabilitation Act provides protection from illegal discrimination for qualified individuals with disabilities.

**Copyright Statement:** The materials for this course are only for the use of students enrolled in this course for purposes associated with the course and may not be retained or further disseminated.

Here are some VWCC resources that may be useful to you!

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| Emergency Alert Information | <http://www.virginiawestern.edu/police/crisismanagement.php> |
| Campus Safety Video | <http://www.virginiawestern.edu/police/safety.php> |
| Student Consumer Information | <http://www.virginiawestern.edu/services/studentconsumerinfo.php> |
| VWCC Withdrawal Policy | <http://www.virginiawestern.edu/services/withdrawal.php> |
| VWCC Student Resources | <http://www.virginiawestern.edu/services/resources.php> |
| VWCC Student Rights and Responsibilities | <http://www.virginiawestern.edu/services/handbook/studentconduct.php> |
| VWCC Student Conduct Policy | <http://www.virginiawestern.edu/services/handbook/studentconduct.php> |
| VWCC Student Grievance Procedures | <http://www.virginiawestern.edu/services/handbook/grievance.php> |
| Title IX:   Policy on Sexual Violence, Domestic Violence, Dating Violence, and Stalking | <http://www.virginiawestern.edu/services/intervention/sexualharassment.php> |

**Agreement**

By signing below I acknowledge that I have read and understand the aforementioned policies and procedures outlined in this syllabus. I understand that this is a binding agreement between the student and instructor and that the information here is non-exhaustive and I am also bound to the policies and procedures set forth by the Roanoke Valley Governor’s School.

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Parent Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Home School: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_