

Hagerstown Community College
OFFICIAL COURSE GUIDE DOCUMENT

COURSE: **ADB 193 Adult Basic Education – Advanced level
Math and Science 0 credits**

SEMESTER/YEAR: **This information to be completed by Instructor**

INSTRUCTOR: **This information to be completed by Instructor**

COURSE DESCRIPTION:

This is an Adult Basic Education course focusing on mathematics and science topics to prepare ABE students to transition to GED-level study and to enter the GED Express class or the Maryland External Diploma Program (EDP). This class focuses on Mathematical Reasoning and strategies for solving problems and topics in Life Science, Physical Science, Earth and Space. Direct class instruction will be given with supplementary materials and computer-based activities included in the course. Students in this course are required to attend the Learning Support Center and the Friday lab for additional practice and assistance.

TEXTBOOKS USED:

There are no textbooks required. Students will have access to textbooks in class and other computer-based learning materials in the class and at the LSC. Students may purchase the class textbooks at the HCC Campus bookstore if they desire to do so.

STUDENT LEARNING OUTCOMES:

Upon successful completion of this course students will be able to:

Math Standards

- Exhibit understanding of quantitative problem solving with rational numbers
 - Order fractions and decimals, including on a number line.
 - Apply number properties involving multiples and factors
 - Perform computations with and solve problems using rational numbers
 - Write and compute with numerical expressions with squares, square roots, cubes, and cube roots of positive, rational numbers
 - Compute unit rates
 - Compute the area and perimeter of triangles and rectangles
 - Determine side lengths of triangles, rectangles, and other geometric figures when given area or perimeter.
 - Represent, display, and interpret categorical data in tables and scatter plots.
 - Demonstrate algebraic problem solving with expressions and equations
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- Compute with linear expressions.
 - Evaluate linear expressions.
 - Write linear expressions and equations when given written descriptions.
 - Compute with polynomials.
 - Solve algebraic and real-world problems involving linear equations
 - Solve real-world problems with inequalities.
 - Demonstrate algebraic problem solving with graphs and functions
 - Locate points in the coordinate plane
 - Determine the slope of a line from a graph, equation, or table.
 - Interpret unit rate as the slope in a proportional relationship.
 - For a linear or nonlinear relationship, sketch graphs and interpret key features of graphs and tables in terms of quantities
 - Represent or identify a function in a table or graph as having exactly one output for each input.
 - Evaluate linear and quadratic functions.
 - Be able to use mathematic skills to solve real world problems as demonstrated on the CASAS test
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Science Topics

Students will explore topics in Life Science, Physical Science, and Earth and Space Science and generally demonstrate the following skills:

- Analyze scientific and technical arguments, evidence and text-based information
- Cite specific textual evidence to support a finding or conclusion.
- Express scientific information or findings verbally
- Apply scientific processes and procedural concepts
- Identify and refine hypotheses for scientific investigations
- Reason from data or evidence to a conclusion
- Reason quantitatively and interpret data in scientific contexts
- Describe a data set statistically
- Understand and explain non-textual scientific presentations
- Express scientific information or findings numerically or symbolically.
- Be able to use scientific themes and data in real world applications

COURSE EXPECTATIONS:

Attendance

Students are expected to attend every class, including Friday's lab at the LSC. In the case of absences due to emergency (illness, accident, death in the family), it is the student's responsibility to inform the instructor. Documented time (signing in) within the Learning Support Center will contribute to eligibility hours for post-testing, and has the potential to decrease the amount of time the student will have to spend to attain his/her goal. Students who show sporadic attendance will be placed at the bottom of the waiting list for the next session.

Progress

To make progress, a minimum of 9 hours of additional, independent work outside of the class is expected each week. Typical level progress occurs after 120 hours of instruction.

Students who have taken the same course level three times without making incremental progress towards the next level will be required to meet with the Intake Assessment Specialist to determine a further plan.

COURSE POLICIES:

Honor Code: Upon admission to HCC all students sign a pledge to uphold an honor system which holds the qualities of honesty and integrity in highest regard for the duration of their educational experience.

Services for Students with Disabilities: Students who have a disability are encouraged to identify themselves to the Disability Support Services (DSS) office as early as possible. Reasonable accommodations based on current documentation are provided to qualified students. Contact the Disability Support Services office at 240-500-2628 or at dss@hagerstowncc.edu to request accommodations.

This course is offered free of charge as a service to the community through a grant from the US Department of Labor, Licensing, and Regulation (DLLR). CASAS testing of each student is required as a provision of the grant at the start and end of each session.