As part of the general education requirements established for BHSU by the South Dakota Board of Regents, every student must complete a mathematics course with a course number of 102 or higher. For most students not planning on taking calculus, this requirement is satisfied by taking either MATH 102 College Algebra or MATH 103 Quantitative Literacy. This guide will help you decide which of these courses is right for you.

Course Descriptions
(From the undergraduate academic catalog, available online at http://catalog.bhsu.edu/index.php)

MATH 102 - College Algebra
Equations and inequalities; polynomial functions and graphs, exponents, radicals, binomial theorem, zeros of polynomials; systems of equations; exponential, logarithmic, and inverse functions, applications and graphs. Other topics selected from sequences, series, and complex numbers.
PreRequisite: Placement or MATH-101
3 semester hours

MATH 103 - Quantitative Literacy
This course is designed to provide the liberal arts student with practical number theory, logical thinking, and mathematical skills to be quantitatively literate. The student will develop critical thinking skills, interpret data, and reason quantitatively to solve authentic problems and increase confidence with mathematics while simultaneously building a cultural appreciation for the relevant and meaningful role that mathematics plays in many areas of life. Students will use information and knowledge from multiple areas to apply mathematics to new situations and dynamic processes. This course does not serve as a prerequisite for courses requiring MATH 102 (College Algebra).
PreRequisite: Placement or MATH-101
3 semester hours

What’s the Same about the Courses
- Both MATH 102 and 103 satisfy the regental general education requirement (BOR Goal #5) for graduation, and both meet for three hours each week.
- Both courses can be challenging and require familiarity with intermediate algebra (offered at BHSU as MATH 101). Students in both courses have access to the Math Assistance Center.
- Certain portions of the two courses cover similar content (such as in studying linear, quadratic, and exponential functions), particularly on topics that will prepare you for the CAAP (“rising junior”) exam.
- While exact details may depend on the instructor and semester a course is offered, both courses typically have similar assessments such as written, closed-book midterm exams and a final, frequent quizzes, and a textbook and homework administered through MyMathLab (an online mathematics system administered by the publisher Pearson).

What’s Different between the Courses
- The main difference between MATH 102 and 103 is the selection of topics covered during a semester. The courses use different textbooks. MATH 102 focuses on traditional algebra topics...
that will prepare the student for later mathematics courses. MATH 103 focuses on mathematical ideas, both algebraic and non-algebraic, that typically appear in “real life” situations like understanding news reports, managing money, and understanding processes in American government and politics. MATH 103 is a terminal mathematics course, in that it cannot be used as a prerequisite for later courses in mathematics, sciences, and similar fields.

- The requirements in the two courses can be somewhat different in form. Other than written midterms and a final exam, all MATH 102 requirements are administered through MyMathLab and typically involve typing in mathematical or numerical answers or answering multiple choice questions. MyMathLab also forms a significant portion of coursework in MATH 103, but course requirements in past semesters have also included more group work, additional written responses, projects, and/or presentations (this is facilitated by the typically smaller class sizes among MATH 103 sections).

Which course should you take?

You and your academic advisor should first check your program requirements. If any course you plan to take as part of your degree program (or as an elective) has College Algebra as a prerequisite, you are required to take MATH 102 (and so most likely should not take Math 103). If you are unsure if MATH 102 is a prerequisite for your courses, please consult the BHSU Undergraduate Catalog (http://catalog.bhsu.edu/index.php) and check with your academic advisor.

Some majors and minors have no MATH 102 prerequisite for any of their required courses; students in these programs should consider, based on the content and formats described above, which of the two courses they are more likely to enjoy, and which course they are more likely to perform well in. If you still have questions after consulting with your academic advisor, feel free to contact a member of the mathematics faculty.

Sample Course Outlines

MATH 102 College Algebra
- Complex numbers and rational expressions
- Linear, quadratic, and absolute value equations and inequalities
- Functions and graphs
- Polynomial and rational functions, equations, and inequalities
- Exponential functions and logarithms
- Systems of equations and inequalities (including basic linear programming)
- Sequences, series, and counting problems

MATH 103 Quantitative Literacy
- Problem solving strategies
- Calculations with units of measurement
- Uses and abuses of percentages
- Functions and mathematical modeling
- Linear functions and graphs
- Quadratic functions and graphs
- Financial planning: interest, investments, savings plans, and debt repayment
- Exponential growth and decay
- Modeling with geometry
- Mathematics in music, visual perspective, and symmetry
- Voting systems
- Mathematics and congressional redistricting
- Network analysis