MATHEMATICS ASSESSMENT

2018-19 Academic Year

General Education Goals related to Mathematics

Core Curriculum Area A.2:
Area A: Students will interpret and apply mathematical information, concepts, and principles embedded in verbal, numerical, graphical, and symbolic representations.

Core Curriculum Area D (Mathematics Goal Only)
Area D: Students will use appropriate models and quantitative methods to analyze data, explore relationships among variables, and find missing information.

Student Learning Outcomes supporting the Core Curriculum General Education Goals related to Mathematics:

1. Students will be able to solve equations.
2. Students will be able to solve inequalities.
3. Students will be able to graph functions.
4. Students will be able to interpret information presented graphically.
5. Students will be able to express numbers appropriately in a variety of ways based on context.
6. Students will be able to rewrite algebraic expressions appropriately in a variety of ways based on context.
7. Students will be able to use set notation in context.
8. Students will be able to calculate rates of change using multiple representations.
9. Students will be able to interpret rates of change using multiple representations.
10. Students will be able to model scenarios or data mathematically to solve quantitative problems.
11. Students will be able to use technology appropriately.
12. Students will be able to apply logical, mathematical reasoning.
Each mathematics course approved for inclusion in the Georgia Highlands College Core Curriculum (either in Area A.2 or Area D) supports all the outcomes listed above. As students progress through the core curriculum the student learning outcomes remain the same, but the assessments are tailored to the specific course objectives (or topics) for individual courses. This allows for students to enhance the depth of their experience with the outcomes as they progress toward core completion.

Faculty assessment teams, led by a facilitator, are responsible for assessing the general education outcomes within the core curriculum courses.

**Key Point:** Individual instructors should include the outcomes connected with the courses they teach on their course syllabi and should participate in assessment of the general education learning outcomes based on the plans circulated by the assessment teams.

The team structure is as follows:

**Team 1: Learning Support Mathematics**

Courses used to assess the Mathematics General Education Learning Outcomes:

- MATH 0989 and MATH 0999

**Team 2: Area A.2 Mathematics**

Courses used to assess the Mathematics General Education Learning Outcomes:

- MATH 1001, MATH 1111, and MATH 1113

**Team 3: Area D Non-STEM Mathematics**

Courses used to assess the Mathematics General Education Learning Outcomes:

- MATH 2200, MATH 2040

**Team 4: Area D STEM Mathematics**

Courses used to assess the Mathematics General Education Learning Outcomes:

- MATH 2261, MATH 2262

**Transfer Pathways Assessment:**
In addition to the assessment activities outlined above, the mathematics division also conducts assessments of its transfer pathways, currently computer science, computer information systems and mathematics. Instructors teaching courses required within the transfer pathways will participate in the assessment work, as established and coordinated by full-time faculty within the division.
Goals and Outcomes supported by MATH 0997

Goal: Students will interpret and apply mathematical information, concepts, and principles embedded in verbal, numerical, graphical, and symbolic representations.

Student Learning Outcomes:

- Students will be able to solve equations.
- Students will be able to solve inequalities.
- Students will be able to graph functions.
- Students will be able to interpret information presented graphically.
- Students will be able to express numbers appropriately in a variety of ways based on context.
- Students will be able to rewrite algebraic expressions appropriately in a variety of ways based on context.
- Students will be able to use set notation in context.
- Students will be able to calculate rates of change using multiple representations.
- Students will be able to interpret rates of change using multiple representations.
- Students will be able to model scenarios or data mathematically to solve quantitative problems.
- Students will be able to use technology appropriately.
- Students will be able to apply logical, mathematical reasoning.
Goals and Outcomes supported by MATH 0999

Goal: Students will interpret and apply mathematical information, concepts, and principles embedded in verbal, numerical, graphical, and symbolic representations.

Student Learning Outcomes:

- Students will be able to solve equations.
- Students will be able to solve inequalities.
- Students will be able to graph functions.
- Students will be able to interpret information presented graphically.
- Students will be able to express numbers appropriately in a variety of ways based on context.
- Students will be able to rewrite algebraic expressions appropriately in a variety of ways based on context.
- Students will be able to use set notation in context.
- Students will be able to calculate rates of change using multiple representations.
- Students will be able to interpret rates of change using multiple representations.
- Students will be able to model scenarios or data mathematically to solve quantitative problems.
- Students will be able to use technology appropriately.
- Students will be able to apply logical, mathematical reasoning.
Goals and Outcomes supported by MATH 1001

Goal: Students will interpret and apply mathematical information, concepts, and principles embedded in verbal, numerical, graphical, and symbolic representations.

Student Learning Outcomes:

- Students will be able to solve equations.
- Students will be able to solve inequalities.
- Students will be able to graph functions.
- Students will be able to interpret information presented graphically.
- Students will be able to express numbers appropriately in a variety of ways based on context.
- Students will be able to rewrite algebraic expressions appropriately in a variety of ways based on context.
- Students will be able to use set notation in context.
- Students will be able to calculate rates of change using multiple representations.
- Students will be able to interpret rates of change using multiple representations.
- Students will be able to model scenarios or data mathematically to solve quantitative problems.
- Students will be able to use technology appropriately.
- Students will be able to apply logical, mathematical reasoning.
Goals and Outcomes supported by MATH 1111

Goal: Students will interpret and apply mathematical information, concepts, and principles embedded in verbal, numerical, graphical, and symbolic representations.

Student Learning Outcomes:

- Students will be able to solve equations.
- Students will be able to solve inequalities.
- Students will be able to graph functions.
- Students will be able to interpret information presented graphically.
- Students will be able to express numbers appropriately in a variety of ways based on context.
- Students will be able to rewrite algebraic expressions appropriately in a variety of ways based on context.
- Students will be able to use set notation in context.
- Students will be able to calculate rates of change using multiple representations.
- Students will be able to interpret rates of change using multiple representations.
- Students will be able to model scenarios or data mathematically to solve quantitative problems.
- Students will be able to use technology appropriately.
- Students will be able to apply logical, mathematical reasoning.
Goals and Outcomes supported by MATH 1113

Goals: Students will interpret and apply mathematical information, concepts, and principles embedded in verbal, numerical, graphical, and symbolic representations.

Students will use appropriate models and quantitative methods to analyze data, explore relationships among variables, and find missing information.

Student Learning Outcomes:

- Students will be able to solve equations.
- Students will be able to solve inequalities.
- Students will be able to graph functions.
- Students will be able to interpret information presented graphically.
- Students will be able to express numbers appropriately in a variety of ways based on context.
- Students will be able to rewrite algebraic expressions appropriately in a variety of ways based on context.
- Students will be able to use set notation in context.
- Students will be able to calculate rates of change using multiple representations.
- Students will be able to interpret rates of change using multiple representations.
- Students will be able to model scenarios or data mathematically to solve quantitative problems.
- Students will be able to use technology appropriately.
- Students will be able to apply logical, mathematical reasoning.
Goals and Outcomes supported by MATH 2040

Goal: Students will use appropriate models and quantitative methods to analyze data, explore relationships among variables, and find missing information.

Student Learning Outcomes:

- Students will be able to solve equations.
- Students will be able to solve inequalities.
- Students will be able to graph functions.
- Students will be able to interpret information presented graphically.
- Students will be able to express numbers appropriately in a variety of ways based on context.
- Students will be able to rewrite algebraic expressions appropriately in a variety of ways based on context.
- Students will be able to use set notation in context.
- Students will be able to calculate rates of change using multiple representations.
- Students will be able to interpret rates of change using multiple representations.
- Students will be able to model scenarios or data mathematically to solve quantitative problems.
- Students will be able to use technology appropriately.
- Students will be able to apply logical, mathematical reasoning.
Goals and Outcomes supported by MATH 2200

Goal: Students will use appropriate models and quantitative methods to analyze data, explore relationships among variables, and find missing information.

Student Learning Outcomes:

- Students will be able to solve equations.
- Students will be able to solve inequalities.
- Students will be able to graph functions.
- Students will be able to interpret information presented graphically.
- Students will be able to express numbers appropriately in a variety of ways based on context.
- Students will be able to rewrite algebraic expressions appropriately in a variety of ways based on context.
- Students will be able to use set notation in context.
- Students will be able to calculate rates of change using multiple representations.
- Students will be able to interpret rates of change using multiple representations.
- Students will be able to model scenarios or data mathematically to solve quantitative problems.
- Students will be able to use technology appropriately.
- Students will be able to apply logical, mathematical reasoning.
Goals and Outcomes supported by MATH 2261

Goals: Students will interpret and apply mathematical information, concepts, and principles embedded in verbal, numerical, graphical, and symbolic representations.

Students will use appropriate models and quantitative methods to analyze data, explore relationships among variables, and find missing information.

Student Learning Outcomes:

- Students will be able to solve equations.
- Students will be able to solve inequalities.
- Students will be able to graph functions.
- Students will be able to interpret information presented graphically.
- Students will be able to express numbers appropriately in a variety of ways based on context.
- Students will be able to rewrite algebraic expressions appropriately in a variety of ways based on context.
- Students will be able to use set notation in context.
- Students will be able to calculate rates of change using multiple representations.
- Students will be able to interpret rates of change using multiple representations.
- Students will be able to model scenarios or data mathematically to solve quantitative problems.
- Students will be able to use technology appropriately.
- Students will be able to apply logical, mathematical reasoning.
Goals and Outcomes supported by MATH 2262

Goal: Students will use appropriate models and quantitative methods to analyze data, explore relationships among variables, and find missing information.

Student Learning Outcomes:

- Students will be able to solve equations.
- Students will be able to solve inequalities.
- Students will be able to graph functions.
- Students will be able to interpret information presented graphically.
- Students will be able to express numbers appropriately in a variety of ways based on context.
- Students will be able to rewrite algebraic expressions appropriately in a variety of ways based on context.
- Students will be able to use set notation in context.
- Students will be able to calculate rates of change using multiple representations.
- Students will be able to interpret rates of change using multiple representations.
- Students will be able to model scenarios or data mathematically to solve quantitative problems.
- Students will be able to use technology appropriately.
- Students will be able to apply logical, mathematical reasoning.