Statement of Justification
Since no single course satisfies the career path for each student, Math 2412 is justified for inclusion in the core.

Assessment Plan

Complete for each Core Objective related to this course. Provide a clear explanation of each element.

Required Core Objective: Critical Thinking

I. Methodology for Assessment:
   A. How will the core objective be covered in the course?
      Each mathematics instructor creates experiences in the classroom that require students to:
      a) organize and consolidate their mathematical thinking through communication,
      b) communicate their mathematical thinking coherently and clearly to the professor or other students,
      c) manipulate and analyze numerical data or observable facts that result in informed conclusions,
      and d) use the language of mathematics to express mathematical ideas precisely.
   
   B. Provide the specific assessment methodology.
      The Mathematics Program Committee will use a course-embedded assessment methodology.
      Immediately before each assessment period of this course, the Mathematics Program Committee
      will agree upon a specific problem type, associated with a Student Learning Outcome, which
      addresses critical thinking. Each faculty member will include a problem(s) of this type on his or
      her Final Exam. For the analysis of the results, a random sample of student artifacts from across
      the HCC system will be selected and scored by a subcommittee of the Math Program Committee.
   
   C. How will the assessment count within the course?
      The selected problem(s) will count for the appropriate portion of the Final Exam grade.
   
   D. Explain how your plan includes a representative sample of HCC faculty and students.
      The selected student artifacts will be chosen from a sample that spans the five colleges and will
      include samples from both full-time and part-time faculty. The random sample will, of course,
      include representatives from all instructional modes (e.g., face-to-face, distance/hybrid) and
      sessions (16-week, 12-week, 8-week, etc).
   
II. Rubric: How will the appropriate rubric(s) be incorporated in the course?
      The rubric adopted by the Core Curriculum Committee will be disseminated to all faculty at the
      beginning of the assessment period for this course. Those elements that are appropriate to the
      subject matter will be used in the evaluation of student artifacts.
   
III. Results: Describe the process of evaluating the results.
      This was addressed in I.B. above.
   
IV. Analysis:
   A. How will the results will be documented and archived?
      A report of the results will be archived in the Core Assessment Report on the HCC Sharepoint
      site for Assessments.
   
   B. Describe how the results will be used to improve student learning.
      Results from the assessments will be examined in a formative evaluation of the Critical Thinking
      core objective. After the assessment, there will be a colloquy, comprised of full-time and part-
      time faculty, to discuss the results from the course-level assessments, and to discuss
      improvements to instruction that might further improve student learning.
Required Core Objective: Communication

I. Methodology for Assessment:
   A. How will the core objective be covered in the course?
      Each mathematics instructor creates experiences in the classroom that require students to a) organize and consolidate their mathematical thinking through communication, b) communicate their mathematical thinking coherently and clearly to the professor or other students, c) manipulate and analyze numerical data or observable facts that result in informed conclusions, and d) use the language of mathematics to express mathematical ideas precisely.
   B. Provide the specific assessment methodology.
      The Mathematics Program Committee will use a course-embedded assessment methodology. Immediately before each assessment period of this course, the Mathematics Program Committee will agree upon a specific problem type, associated with a Student Learning Outcome, which addresses communication. Each faculty member will include a problem(s) of this type on his or her Final Exam. For the analysis of the results, a random sample of student artifacts from across the HCC system will be selected and scored by a subcommittee of the Math Program Committee.
   C. How will the assessment count within the course?
      The selected problem(s) will count for the appropriate portion of the Final Exam grade.
   D. Explain how your plan includes a representative sample of HCC faculty and students.
      The selected student artifacts will be chosen from a sample that spans the five colleges and will include samples from both full-time and part-time faculty. The random sample will, of course, include representatives from all instructional modes (e.g., face-to-face, distance/hybrid) and sessions (16-week, 12-week, 8-week, etc).

II. Rubric: How will the appropriate rubric(s) be incorporated in the course?
      The rubric adopted by the Core Curriculum Committee will be disseminated to all faculty at the beginning of the assessment period for this course. Those elements that are appropriate to the subject matter will be used in the evaluation of student artifacts.

III. Results: Describe the process of evaluating the results.
      This was addressed in I.B. above.

IV. Analysis:
   A. How will the results will be documented and archived?
      A report of the results will be archived in the Core Assessment Report on the HCC Sharepoint site for Assessments.
   B. Describe how the results will be used to improve student learning.
      Results from the assessments will be examined in a formative evaluation of the Communication core objective. After the assessment, there will be a colloquy, comprised of full-time and part-time faculty, to discuss the results from the course-level assessments, and to discuss improvements to instruction that might further improve student learning.
Required Core Objective: **Empirical Quantitative**

I. **Methodology for Assessment:**
   A. **How will the core objective be covered in the course?**
      Each mathematics instructor creates experiences in the classroom that require students to a) organize and consolidate their mathematical thinking through communication, b) communicate their mathematical thinking coherently and clearly to the professor or other students, c) manipulate and analyze numerical data or observable facts that result in informed conclusions, and d) use the language of mathematics to express mathematical ideas precisely.

   B. **Provide the specific assessment methodology.**
      The Mathematics Program Committee will use a course-embedded assessment methodology. Immediately before each assessment period of this course, the Mathematics Program Committee will agree upon a specific problem type, associated with a Student Learning Outcome, which addresses the Empirical/Quantitative objective. Each faculty member will include a problem(s) of this type on his or her Final Exam. For the analysis of the results, a random sample of student artifacts from across the HCC system will be selected and scored by a subcommittee of the Math Program Committee.

   C. **How will the assessment count within the course?**
      The selected problem(s) will count for the appropriate portion of the Final Exam grade.

   D. **Explain how your plan includes a representative sample of HCC faculty and students.**
      The selected student artifacts will be chosen from a sample that spans the five colleges and will include samples from both full-time and part-time faculty. The random sample will, of course, include representatives from all instructional modes (e.g., face-to-face, distance/hybrid) and sessions (16-week, 12-week, 8-week, etc).

II. **Rubric: How will the appropriate rubric(s) be incorporated in the course?**
   The rubric adopted by the Core Curriculum Committee will be disseminated to all faculty at the beginning of the assessment period for this course. Those elements that are appropriate to the subject matter will be used in the evaluation of student artifacts.

III. **Results:** Describe the process of evaluating the results.
    This was addressed in I.B. above.

IV. **Analysis:**
   A. **How will the results will be documented and archived?**
      A report of the results will be archived in the Core Assessment Report on the HCC Sharepoint site for Assessments.

   B. **Describe how the results will be used to improve student learning.**
      Results from the assessments will be examined in a formative evaluation of the Empirical/Quantitative core objective. After the assessment, there will be a colloquy, comprised of full-time and part-time faculty, to discuss the results from the course-level assessments, and to discuss improvements to instruction that might further improve student learning.