Montgomery College Quantitative Reasoning in the Disciplines
Call for Proposals: 2019-2020 Faculty Fellowship Cohort Program

What is the purpose of this fellowship program?
Montgomery College's Quantitative Reasoning in the Disciplines Program (QRiD) supports faculty in their development of pedagogical techniques that encourage students to identify, navigate, and employ quantitative information more aptly in their personal, professional, and academic pursuits. The QRiD Fellowship Program brings together a cohort dedicated to pursuing a scholarship of teaching and learning to enhance quantitative reasoning pedagogy in their courses, in disciplines, and across Montgomery College.

We believe that faculty already have many of the quantitative reasoning skills necessary to enrich their classes. This fellowship focuses on quantitative reasoning pedagogy rather than on teaching faculty themselves quantitative reasoning skills. The goal is to expose students to quantitative reasoning and to encourage proficiency and comfort with numbers so that students develop a "habit of mind" that incorporates quantitative analysis into all aspects of their lives. The QRiD fellowship program creates a network of faculty who incorporate, discuss, and assess quantitative reasoning in their classes.

Examples of student exercises developed by the 2018-19 cohort:
- English Language for Academic Purposes students survey each other's opinions about museum exhibits, graph the results, and present the findings orally and in writing.
- English 102 students engage in meta-cognition by analyzing how quantitative information strengthens their research papers.
- Biology students debate public policy by analyzing lead contamination data in water supplies.
- Chemistry students explain how they arrive at solutions and describe challenges that lead to incorrect answers, helping them transfer learning from in-class activities to exams.
- World language students practice thinking in numbers and develop skills to bargain and tell time.

Faculty value these fellowships because they provide a space to explore pedagogical tools, to develop quantitative reasoning exercises, and to work collaboratively with a diverse cohort of educators dedicated to enhancing and refining their courses.

Who may apply?
Full-time and part-time faculty in any discipline who already incorporate quantitative reasoning skills into their courses or who wish to begin infusing quantitative reasoning skills into their courses may apply. We seek a fellowship cohort with a range of comfort levels with quantitative reasoning skills and pedagogy, and from a variety of disciplines, including Arts, Humanities, Social Sciences, Business, STEM, and others.

What will I produce in this fellowship program?
Fall 2019:
- Create a one-page summary of how you will infuse and enhance quantitative reasoning in one of your courses (to be finalized in spring 2020 and shared on the MC website and at a poster session at the Spring 2020 Closing Meeting).
- Develop and teach a brief lesson incorporating ideas you have developed.
- Develop an assignment with an assessment to be incorporated into a class in spring 2020.
- Develop an Action Research Plan to create a cycle of quantitative reasoning infusion and assessment.

Spring 2020:
- Report the results of implementing the action plan to the QRID cohort and in the poster session at the Spring 2020 Closing Meeting.
- Implement newly created/enhanced lesson and assignment in a course.
- Conduct one Quantitative Reasoning-related workshop or meeting in one of your professional networks or with students.

What are the outcomes of this fellowship?

- Articulate the meaning of Quantitative Reasoning (QR) and explain its applications to their discipline.
- Identify common hurdles impeding effective development and application of QR skills among students and develop discipline-specific and integrative learning strategies to help students overcome those hurdles.
- Identify useful QR resources within and across disciplines.
- Identify and implement effective assessment methods for measuring QR skills and QR pedagogy effectiveness by creating an action research plan.

Where does the fellowship meet, and what are the expectations for my time and compensation?

Fellows will meet as a group 14 times during the Fall 2019 semester. Meetings will be a combination of workshop discussion, activities, structured lab, and presentations. Fellows will receive a total of 2 ESH for Fall 2019 and 2 ESH for Spring 2020. Receipt of Spring 2020 ESH is contingent upon successful completion of the Fall 2019 fellowship work.

Fall 2019 Meeting Dates and Time: Meetings will be held in **Rockville** from 2-4 pm each Friday during the fall 2019 semester.
Spring 2020 Cohort Meetings: Report-back meeting date and time TBD; Poster Session at Spring 2020 Closing Meeting

This offer to participate in professional development is contingent upon enrollment and a class assignment. The offer to participate in this professional development activity is not a guarantee of a class assignment.

How do I apply?

1) Submit your completed 2019-2020 Fellowship Program Application. This application will ask you to indicate your name, email, M#, disciplines taught, and proposed course(s) for infusion and/or enhancement of QR. Applicants will also need to provide short answers (1-2 paragraphs) for the following questions:
    a. We are seeking a fellowship cohort with a range of comfort levels in quantitative reasoning. Describe your current comfort level with your own quantitative reasoning skills and include an assessment of your effectiveness in teaching quantitative skills.
    b. Describe how the Quantitative Reasoning the Disciplines fellowship would help student success in your courses. Please be as specific as possible, identifying current student challenges with QR, or perhaps detailing uncaptured opportunities of introducing students to QR skills in your classes.
    c. Describe a specific teaching project you would like to develop for your course(s). Although we would expect that your ideas will change during the fellowship experience, please make your project idea as explicit and concrete as possible in your application.
2) Receive approval from your department chair and instructional dean. After you submit your application, your dean and chair will receive an email asking them for approval of your application.
3) **All application materials must be submitted by April 10, 2019.** We will notify applicants of their status within three weeks.

Who do I contact if I have questions?

For general questions, please contact Jennifer Haydel (Associate Professor of Political Science) at Jennifer.haydel@montgomerycollege.edu or Diane McDaniel (Associate Professor of Geology) at diane.mcdaniel@montgomerycollege.edu.
For administrative questions, please contact John Hamman (Dean of Mathematics, Statistics & Data Science) at john.hamman@montgomerycollege.edu.