PLEASE SHARE WITH HIGH SCHOOL MATHEMATICS TEACHERS:

Rivier University is pleased to announce a graduate level course that will be offered on Tuesday and Thursday from 4:00-6:30 from May 13 through June 27. This course is designed for current and prospective high school mathematics teachers to revisit the subject of Calculus from a teacher’s perspective. The emphasis will be on the understanding of concepts and their importance.

**MA565A Concepts in Calculus**

Catalog Description:

The course requires preliminary knowledge of differentiating and integrating techniques and focuses on the conceptual aspects of calculus. It revisits the fundamental concepts of a function (defined in Cartesian, parametric, and polar systems), limit, derivative, tangency, definite and indefinite integrals, infinite sequences and series, and multivariable differentiation and integration. The concepts are viewed in their historical development; special attention is paid to the complementary impulses of mathematical precision and practical applicability.

Prerequisites: Calculus I and Calculus II

The following topics will be addressed with pedagogical features, including, but not limited to, Conceptual Insights, Graphical insights, Prior Knowledge Reminders, Predicting Points of Confusion, Assumptions and Counter Examples, as well as Historical Perspectives:

1. Functions and Relations.
2. Limits
3. Differentiation
4. Applications of Derivatives
5. Integration (Including Techniques of Integration)
6. Applications of the Integral (Including Taylor Polynomials)
7. Infinite Series
8. Parametric Equations, Polar Coordinates, and Conic Sections
9. Multivariable Calculus

For more information on either the course MA565 or the Masters of Arts in Teaching Mathematics program, contact Dr. Joseph Spadano, [jspadano@rivier.edu](mailto:jspadano@rivier.edu). To register visit the Rivier University website <https://www.rivier.edu/academics/registrar/>.