

# UConn ECE Math Communicator

Newsletter of UConn's Early College Experience Program in Mathematics

Volume 15 Number 1

March, 2007

## Annual Workshop Scheduled

The 2007 Re-certification workshop will take place Monday, August 20, 2007, starting at 9:00am, room to be announced.

As in the past, application will be made for attendees of the complete program to receive the appropriate amount of CEUs for participating in the workshop. We anticipate that the application will again be approved and that we will provide forms at the meeting to obtain the CEU credits.

Susan Palmberg, ECE Math instructor, EO Smith HS, will be giving a talk entitled "Using Technology to Enhance Calculus". She will be covering three or possibly four types of technology in the presentation:

- Visualizing Change: using the Geometer's Sketchpad
- Take it to the limit: using either a TI-86 or TI-83 graphing calculator
- Derivatives of Exponential and Logarithm functions using Maple

She will have on hand some other application type labs like "In the Can" (optimization) and "Bundt Cake as a solid of revolution" using either TI calculators or Maple.

Professor Tom Roby, Director of UConn's Quantitative Learning Center and Assoc. Professor in the Department of Mathematics will give a talk entitled: Euler and Infinite Series.

Abstract: 2007 marks the 300th anniversary of the birth of Leonhard Euler. Euler was a master of infinite series, using it to define important constants and solve problems that had baffled the brightest mathematical minds in Europe. We'll discuss some of these, including a derivation of

the value of  $\sum_{n=1}^{\infty} \frac{1}{n^2} = 1 + \frac{1}{4} + \frac{1}{9} + \dots + \frac{1}{n^2} + \dots =$

the sum of the squares of the reciprocals of the

positive integers.

## Expanding Calculus Offerings

As all of you know, NECEP accreditation necessitated that our partner institutions offer courses that are comparable to the offerings on the Storrs campus. That meant that Math 115Q had to be completed in one "semester". Thus, all ECE courses that started at the beginning of the school year in September, had to finish in time for a final exam before the end of January. That means that Math 115Q is now taught between September and January (inclusive) and Math 116Q is covered between February and June (inclusive).

This Fall semester, we had 34 sections of Math 115Q and 23 sections of Math 112Q. Some instructors felt that the Sept.-Jan. semester was too short to complete the syllabus of Math 115Q for their students. They therefore opted to offer Math 112Q in the fall and Math 113Q in the spring. The syllabus for Math 112Q-113Q roughly corresponds to the AP Calculus AB-level syllabus, while the Math 115Q-116Q courses roughly correspond with the AP Calculus BC-level syllabus. Thus Math 115Q contains more material than Math 112Q. Math 115Q includes Riemann sums, definite integration, antiderivatives and the Fundamental Theorem of Calculus (parts 1 and 2!).

Students completing Math 112Q and Math 113Q will receive 8 credits. Should these students matriculate in any school in UConn except the School of Engineering, all 8 of those credits will be applied toward the total needed to graduate. Those matriculating in the School of Engineering will only have 4 of those credits count toward their graduation total.

The Freshman Calculus sequences for students at UConn are:

Math 115Q, 116Q

Math 112Q, 113Q, 116Q  
Math 112Q, 113Q, 114Q  
The Honors Sequence Math 135Q, 136Q.

### Fixin' up some misconceptions

Some may think that if you give a C- or below as an ECE grade, that third parties receiving UConn transcripts will see those grades. *Rest assured* that the UConn transcript will list all such grades as AU (for audit). No outside entity can find out what the grade assigned was if it was a C- or below. Only the student will know.

With this misconception cleared up, the ECE program needs to have a record of the actual grade. So we would like to use the AU grade for those who did not complete the course, but who were in the course at some point after the Add/Drop Period. So please keep records as to when a student drops out of the ECE Math course (even if he/she remains in the HS Math course). Notify either David Gross or Jennifer Griffin of any changes in the class roster that you sign as soon as a student's status changes. Refunds depend on the date of withdrawal. Students who do not officially withdraw from the course (and do not take the later exams or final) will get an F for the course (which naturally will be converted to an audit).

### For those who did not include early transcendentals

Since some of you implemented the Math 112Q curriculum rather quickly and couldn't change the late transcendental treatment, we allowed some sections to continue this past fall to offer Math 112Q or Math 115Q not including an early treatment of exponentials and logarithms. This coming Fall 2007 semester, all ECE Math 112Q and 115Q will have to include an early treatment of these transcendental functions.

### A Change in Calculus Texts

As was announced in a List Serve email sent out on 2/8/2007, Math 112Q, 113Q, 115Q and 116Q will be switching to Calculus: Early

Transcendentals, 6e, by James Stewart, Brooks/Cole.

If you are changing to a new text for the Academic Year 2007-2008, consider choosing Stewart's Single Variable Calculus: Early Transcendentals, 6e.

Since some of you may not have a textbook that includes early transcendentals, David Gross will include some help in bridging the gap between a book that does not treat exponential and logarithmic functions as early as needed for the ECE Calculus courses.

### Students who do NOT receive credit for the prerequisite course will not be allowed to continue with the subsequent course.

If a student receives an audit for Math 112Q or for Math 115Q, then he or she will not be allowed to get credit for Math 113Q and Math 116Q. Where appropriate, I will work with Jennifer Griffin to issue tuition refunds.

As you can see, there will be much to discuss in August, but in the meantime David Gross welcomes your questions on any aspect of this program or its pedagogy. Simply send your inquiry via e-mail to [david.gross@uconn.edu](mailto:david.gross@uconn.edu).

### Advising Advice

Some of you have asked about proper advisement regarding whether a student should take the ECE Math Calculus course that you offer. We have a web site that might interest you which addresses this issue. This site provides an interactive tool which helps determine the likelihood of getting a C or better in a UConn Storrs Q-course. Go to <http://www.placement.uconn.edu/contours.html> Using a combination of Math SAT score and high school rank, it statistically determines the likelihood of successfully completing a particular Q course based on the past 5 years worth of results of student performance at UConn Storrs. Any questions about its use can be directed to David Gross, [david.gross@uconn.edu](mailto:david.gross@uconn.edu).