

- New Precalculus class starts Autumn Quarter 2011
- New Q Sci 291 instructor in Winter Quarter
- Q Sci 486 (Experimental Design) will be offered in Winter Quarter.
- New Resampling course to be offered in Spring 2012

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Random Events

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AUTUMN QUARTER 2011

New Quantitative Science Newsletter

The Center for Quantitative Science (CQS) will begin publishing an occasional newsletter starting Autumn Quarter 2011. This newsletter is intended to bring you information on new courses, course changes, relevant new courses in other departments, and other things happening within the Center.

If you have something for our newsletter, please contact Vince Gallucci at vgallucc@uw.edu or Linda Hegrenes at lindabel@uw.edu.



The CQS began life in 1968 as the Center for Quantitative Science in Forestry, Fisheries, and Wildlife which has now been compressed to just the Center for Quantitative

Science. Nevertheless, that original focus is still largely present as a descriptor of the CQS mission. The Center's faculty still remains largely drawn from the School of Forest Resources and the School of Aquatic and Fishery Sciences, both of which are now part of the College of the Environment (COE). It is expected that faculty from other schools in the college, and even outside the college, will be added.

New Precalculus Class Begins—Q Sci 190

The Center for Quantitative Science is now offering a precalculus class (Q Sci 190). In the past, many students have either taken Math 120 at the UW or an equivalent course at a community college before starting the Q Sci 291/292 series or Q Sci 381.

Q Sci 190 is an internet course taught by Professor Bruce Bare. Beginning Winter 2012, it will be offered through the University of Washington Educational Outreach (UWEO) department. This course will be offered in autumn, winter, and spring quarters. The

description is as follows:

Covers applications of precalculus techniques and concepts to environmental, ecological, biological, and natural resource problems stressing the formulation, solution, and interpretation of mathematical procedures. Prerequisite: minimum grade of 2.0 in MATH 098 or MATH 103, a score of 151-169 on the MPT-GS test, or a score of 145-163 on the MPT-AS test.



Sandor Toth Teaches Q Sci 291

Professor Sandor Toth, an Assistant Professor in the School of Forest Resources will teach Q Sci 291 (Calculus) in Winter Quarter 2012. Sandor is replacing Professor David Briggs who taught Q Sci 291 for many years.

Q Sci 291 (winter) will meet:

Monday-Friday from 9:30-10:20 a.m.

The course description for Q Sci 291 is:

Introduction to differential calculus, emphasizing development of basic skills. Examples promote understanding of mathematics and applications to modeling and solving biological problems. Topics include optimization and curve analysis. Prerequisite: either MATH 120, Q SCI 190, a minimum score of 2 on

advanced placement test, or a score of 153-163 on MPT-AS placement test. Not available for credit to students who have completed MATH 124 with a 2.0 or higher.

New Resampling Class in Spring

The Center for Quantitative Science and the Statistics Department are joining together to offer a resampling course in spring 2012. Vladimir Minin, an Assistant Professor in Statistics will be the instructor.

The course description for Q Sci/Stat 403 follows:

Introduction to computer-intensive data analysis for experimental and observational studies in empirical sciences.

Students design, program, carry out, and report applications of bootstrap resampling, rerandomization, and subsampling of cases. Experience programming in R is beneficial.

Prerequisite: either Stat 220, 301, 311, 341, 390, or 480. Alternatively, Q Sci 381 and 482.

Recommended: Q Sci 483 or concurrent registration in Q Sci 403 and 483.

Q Sci Minor Update

At the present time, the Q Sci minor has approximately 45 students after June graduates. A new cohort is expected to sign up in the 2011-2012 academic year. The current requirements for the Q Sci

minor are:

Q Sci 291/292 or Math 124/125
Q Sci 381
Q Sci 482
And two 300-400 level Q Sci courses, 1 of which must be either Q Sci 480, 483 or 486.

A subcommittee recently evaluated these requirements relative to other departments within and exte-

rior to the College of the Environment as well as to changes in the Q Sci Curriculum and has made the following recommendation: Add Q Sci 483 or Q Sci/Stat 403 to the list of required courses and change the elective requirements to "must take an additional 3 credits of electives from an approved list."



Quote of the Quarter

This quote is brought to us courtesy of Dr. Vince Gallucci, CQS Director:



“The perfect serve is nothing more than the dynamical relationship between the arc of the racket providing an impulse function to the ball directed on a smooth trajectory across the net. The most effective impact will be represented by a sliding impact imparting spin to the ball so that upon contact with the ground the balls’ straight trajectory is modified. It is comforting to think that all of this is so easily represented by an equation.”



Q Sci 486—Experimental Design

Q Sci 486 (Experimental Design) is offered in Winter quarters of even years. Professor Loveday Conquest will be teaching 486 this coming winter. This course has recently been changed from 3 to 4 credits because of the addition of a lab.

The 486 course description is:

Topics in analysis of variance and experimental designs: choice of designs, comparison of efficiency, power, sample size, pseudoreplication, factor structure. Prerequisite: Q SCI 482; recommended: Q SCI 483.

Q Sci 486 (winter) will meet:

MWF 10:30-11:20 with a Friday lab from 11:30-1:20.

Quantitative Ecology and Resource Management (QERM)

The founding of CQS in 1968 was very closely coincident with the founding of the biomathematics degree in the graduate school. The biomath degree morphed into the Quantitative Ecology and Resource Management (QERM) degree program currently directed by Dr. Loveday Conquest. The coincidence of these two in the

timing of their founding represents a recognized need for the use of mathematics in life science/resource management types of areas at the undergraduate and graduate levels. Future issues of this newsletter will also contain information about QERM and its offerings.

Dr. Loveday Conquest, QERM Director



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Many of the courses that were taught 40 years ago when CQS began continue to be taught but of course have been modernized. Additional new classes are being added some of which may be seen in this newsletter. The mission of the center remains as before:

teaching of courses for undergraduates and beginning graduate students in the quantitative areas such as calculus, differential equations, and statistics.

The Center has long taught a distance learning statistics class and is now entering into deterministic mathematics. For further information see the CQS website at: <http://depts.washington.edu/cqs/> and/or make contact with either the director or the administrative assistant—Contact info is located to the left.

New courses under consideration

Q Sci 210—Introduction to Modeling. This course is under revision. We hope to offer it in the 2011-2012 academic year.

Q Sci 293—Calculus III. This course is also being considered for spring quarter 2012. More information to come.

Tentative 2011-2012 Q Sci Schedule of Classes

The Center for Quantitative Science expects to offer the following classes this academic year.

Please note: this is subject to change.

Autumn Quarter 2011

Q Sci 190 (Precalculus) Prof. Bare

Q Sci 291 (Calculus) Prof. Johnson

Q Sci 381 (Intro to Prob/Statistics)
Section A: Prof. Greulich
Section B: Prof. Ciol
Section C: Prof. Bare (Internet)

Q Sci 482 (Stat Inf 1) Prof. Conquest

Winter Quarter 2012

Q Sci 190 (Precalculus) Prof. Bare

Q Sci 291 (Calculus) Prof. Toth

Q Sci 292 (Calculus II) Prof. Johnson

Q Sci 381 (Intro to Prob/Statistics)
Section A: Prof. Greulich
Section B: Prof. Punt
Section C: Prof. Bare (Internet)

Q Sci 482 (Stat Inf I) Prof. Turnblom

Q Sci 486 (Exp. Design) Prof. Conquest

Spring Quarter 2012

Q Sci 190 (Precalculus) Prof. Bare

Q Sci 291 (Calculus)-currently no instructor

Q Sci 292 (Calculus II) ?

Q Sci 293 (Calculus III)?

Q Sci 381 (Intro to Prob/Statistics)
Section A: Prof. Greulich
Section C: Prof. Bare (Internet)

Q Sci 403 (Resampling) Prof. Minin

Q Sci 483 (Regression) Prof. Skalski