MATHEMATICS AND ITS APPLICATIONS

Degree offered:

Doctor of Philosophy in Mathematics and its Applications (PhD)

Selected areas of research:

Algebra; algebraic geometry; approximation theory; combinatorics; computational geometry; computing; cryptology; evolution equations; dynamical systems; differential geometry; ergodic theory; fractals; functional analysis; graph theory; homolgical algebra; information theory; logic; number theory; numerical analysis; optimization; partial differential equations; probability theory; set theory; statistics; stochastic processes

Financial aid:

The university is committed to sustaining a geographically diverse and multicultural student body. To further this goal, CEU accepts financial aid applications from students from all over the world. Further information is available at *http://www.ceu.hu/financial.html.*

Application deadlines:

November 1, 2006
(early applications deadline)
January 5, 2007
(general application deadline)

THE DOCTORAL PROGRAM

The program covers major branches in both mathematics and its applications, and is carried out jointly with the Alfred Renyi Institute of Mathematics, Hungarian Academy of Sciences. In addition, outstanding scholars from abroad are also invited regularly to deliver lectures. For example, Haim Brezis (Paris VI and Rutgers University) has recently been appointed as a CEU Distinguished Visiting Professor. To encourage interdisciplinary work, the Department of Mathematics and its Applications opens its courses to students from other CEU departments.

Sample Courses

Semester I
Basic Algebra 1. Prerequisites: Introductory linear algebra and an undergraduate course in abstract algebra
Basic Algebra 2. Prerequisite: Basic Algebra 1
Real Analysis. Prerequisite: Introductory linear algebra, undergraduate calculus

Semester II
Basic Algebra 3. Prerequisite: Basic Algebra 1
Complex Function Theory. Prerequisite: Undergraduate Calculus
Functional Analysis and Differential Equations. Prerequisites: Linear Algebra, Calculus, Real and Complex Analysis

Other Courses

Normally, in the first two years all students take the courses listed previously (unless they already know this material). Their other credits are obtained through courses in their own areas of mathematical interest. In addition, students are encouraged to take courses across a diversity of topics: Mathematics has a special unity where the most striking advances use ideas and techniques from many of its parts.

The department intends to regularly offer courses in algebra, combinatorics, mathematical logic and foundations, set theory, number theory, geometry, functional analysis, partial differential equations, evolution equations, approximation theory, numerical analysis, probability theory and stochastic processes, statistics, computer science, information theory, etc. These are offered as needed, depending on the specific interests of the students.

Entry Requirements

In addition to meeting the General CEU Admissions Requirements, applicants to the department must submit a one-page statement describing their interest in mathematics, their achievements, and future goals. Applicants are expected to have a higher education degree and a strong background in mathematics. Typical students will hold a BA, BSc, MS, or MSc with a major in mathematics or a related field such as physics, engineering, or computer science. Applicants must take either the CEU written Mathematics Entrance Examination or the GRE Subject Test in Mathematics. More details on these examinations can be found on the department's website:
http://www.ceu.hu/math/ProsStud/prospective.html.

CEU

MORE INFORMATION AND INQUIRIES

Department: Tel. (36-1) 327-3053, Email: mathsphd@ceu.hu, Website: *http://www.ceu.hu/math*
Admissions Office: Tel. (36-1) 327-3009, 327-3210, 327-3208, Email: admissions@ceu.hu
Website: *http://www.ceu.hu/admissions.html*