Software Engineering at UK

Expand your skills and knowledge, meet other Lexington professionals and graduate students, and possibly pursue an MS or PhD. In January 2017, we will offer a course on **Empirical Software Engineering** (CS 685) on **Tuesday and Thursdays at lunchtime (1230 – 145 pm)**. The course will be taught by Dr. Jane Hayes of the University of Kentucky.

The course (overview):

The course will examine the scientific process and specifically the experimental method. Empirical studies in software engineering will be examined. Students will review empirical research papers as well as learn to perform their own empirical research and write research papers that should be conference-submission ready.

Detailed study of the scientific process; particularly using the experimental method. Examination of how empirical studies are carried out in software engineering (by industry and by researchers). Review of the distinction between analytical techniques and empirical techniques. Study of when experimentation is required in software engineering, and what kinds of problems can be solved using experimentation. Examination of how to control variables and to eliminate bias in experimentation. Examination of analysis and presentation of empirical data for decision making. Students will learn how the scientific process should be applied, how and when to apply it in the software engineering area, and how to evaluate empirical evidence. The principles will be reinforced by examination of published experimental studies, through designing and carrying out small experiments, and writing research papers. On completion of the course, students will be in a position to design and carry out experiments in ways appropriate for a given problem, and will acquire skills in analyzing and presenting experimental data.

The book:

Plan to use this book, possibly others: Experimentation in Software Engineering, Claes Wohlin, Per Runeson, Martin Höst, Magnus C. Ohlsson and Björn Regnell (~$28-$90)

A tentative list of course topics:

Scientific process and Experimentation
Metrics
Complexity
Software Testing
Requirements
Statistical analysis
Architectural design
Detailed design
Software inspections
HCI
Software project management
User interface design
Traceability
Software maintenance

The instructor:

Dr. Hayes has over 17 years of industry experience in software verification and validation, including evaluation of software requirements/designs. Her research interests include requirements engineering, verification and validation, and software maintenance.

Registering to take a few graduate courses at UK is easy:.....as a Post-Baccalaurate Student. "Students who hold a baccalaureate degree from a fully accredited institution of higher learning and who wish to pursue graduate study without a degree objective may apply for admission as post-baccalaureate graduate students. An application for admission to the Graduate School as a post-baccalaureate graduate student should be filed in the Admissions Office at least two weeks in advance of the registration date for the term in which the student plans to enroll. A maximum of nine semester hours or twenty-five percent of the credits required for the degree concerned, whichever is greater, may later be transferred from post-baccalaureate status to a master's, specialist or doctoral degree program at The University of Kentucky. All applications must be submitted on-line. To access the form and instructions, visit this URL - http://www.research.uky.edu/gs/prospectivestudents/admission_categories.html

For more information:

Contact Dr. Jane Hayes (hayes@cs.uky.edu)

[1] University of Kentucky, Graduate school, http://www.research.uky.edu/gs/bulletin/bull05Fall/GraduateAdmission.shtml