



ICTCM

*17th Annual
International Conference on
Technology in Collegiate Mathematics*

Computer Minicourse Descriptions

Friday, October 29, 2004

FRI - M1 **AN INTRODUCTION USING SMARTBOARD IN THE CLASSROOM**

Loyola A Judith Gathers, David Ray, *University of Tennessee at Martin*

10:30 AM - 12:15 PM

Participants will learn how to use various aspects of Smartboard from orienting to recording lecture notes. They will also be introduced to the use of Geometer's Sketchpad in connection with Smartboard.

FRI - M2 **MULTIVARIABLE CALCULUS WITH DPGRAPH**

Loyola B Vljako Kocic, *Xavier University of Louisiana*

10:30 AM - 12:15 PM

DPGraph is powerful, simple-to-use dynamic visualization software for graphing 2d and 3d objects. A variety of in-class and homework assignments, group and individual projects are developed to enhance students learning in multivariable calculus. Minicourse participants will gain operational knowledge of DPGraph and learn how to integrate it into the classroom.

FRI - M3 **GETTING TO KNOW...GEOMETER'S SKETCHPAD**

Loyola A Carol Marinas, *Barry University*

12:30 PM - 2:15 PM

Have you heard of Geometer's Sketchpad? Been to a demonstration? Let's learn how to get started in the Sketchpad environment. Why wait? Learn the basics of Sketchpad through hands-on experiences. Develop methods of challenging your students through interactive activities.

FRI - M4 **JUMP-STARTING TECHNOLOGY IN THE CALCULUS CURRICULUM**

Loyola B Rosemary Carroll Farley, Patrice Tiffany, *Manhattan College*

12:30 PM - 2:15 PM

This minicourse is intended for faculty who want to incorporate MAPLE into calculus classes. Participants will learn enough code to be able to start using MAPLE immediately. They will receive a booklet containing examples of the most important MAPLE commands, and examples of the most common errors made by students.

FRI - M5 **PMET: PREPARING MATHEMATICIANS TO EDUCATE TEACHERS -
ELEMENTARY AND MIDDLE GRADES COURSES**

Loyola A Holly Hirst, Mary Searcy, *Appalachian State University*

3:00 PM - 4:45 PM

The MET report offers sage advice for improving the education of elementary and middle grades teachers. Of foremost importance is the need to develop a "deep understanding" of school mathematics. Technology can assist with this goal. We will focus on calculator and computer activities designed to engage students in mathematical explorations.

FRI - M6 **EXCELLENT TOOLS: CREATING INTERACTIVE WORKBOOKS USING MS EXCEL**

Loyola B Sarah Lou Mabrouk, *Framingham State College*

3:00 PM - 4:45 PM

Learn how to create applet-like interactive workbooks using the MS Excel Control Toolbox! Create workbooks containing user-manipulated objects such as scrollbars, buttons, and popups that make great classroom demonstrations and are valuable for assignments, projects, and guided learning tools for concept exploration.

Friday, October 29, 2004

FRI - M7

B²: BLACKBOARD BASICS

Loyola A

Cathy Ann Godbois, *DeVry University Online*

5:00 PM - 6:45 PM

Yvette Nicole Johnson, Nicole Lloyd, *Lansing Community College*

Interested in developing a course in BlackBoard for use in a hybrid class or an ancillary site for a traditional lecture? Participants should bring sample class materials on a disk for use in the minicourse. The basics of BlackBoard will be introduced: announcements, control panel, gradebook, communication, assessment, and content areas.

FRI - M8

FROM 2D TO 3D USING AUTOGRAPH

Loyola B

Douglas Butler, *ICT Training Center, Oundle School - United Kingdom*

5:00 PM - 6:45 PM

A chance to discover new approaches to teaching coordinate geometry and calculus in both 2D and 3D using dynamic software.

Saturday, October 30, 2004

SAT - M9

CREATING AN INTERACTIVE MATH COURSE USING ADAPTIVE BOOK

Loyola A

Ananda Gunawardena, *Carnegie Mellon University*

8:00 AM - 9:45 AM

In this minicourse, you will learn how to use existing digital content and/or integrate your own course material to create an interactive course package. Use of Adaptive Book software allows all digital content within the package to be marked up and shared with other users.

SAT - M10

PICTURE IT WITH MATHEMATICA!

Loyola B

Debra Woods, *University of Illinois at Urbana-Champaign*

8:00 AM - 9:45 AM

Participants in this minicourse will engage in a hands-on introduction to using Mathematica for visualizing math. Presenter will distribute notebooks from Math Teacher Link's "Using Mathematica in the Classroom."

SAT - M11

MATLAB AS A TEACHING AND LEARNING TOOL IN THE MATHEMATICS CURRICULUM

Loyola A

Stephen Kane, Alan Davies, *University of Hertfordshire, United Kingdom*

10:30 AM - 12:15 PM

In the University of Hertfordshire we use Matlab in the mathematics curriculum for teaching. The University funded teaching and learning initiatives have allowed us to develop a set of web-based workshops. We describe the resources and show how the workshops are embedded in our teaching.

SAT - M12

USING THE TI-NAVIGATOR SYSTEM TO ENHANCE TEACHING AND LEARNING AT THE COLLEGE LEVEL

Loyola B

Linda Griffith, *University of Central Arkansas*

10:30 AM - 12:15 PM

The TI-Navigator system will be used to show how communication between students and the instructor in mathematics classes can be enhanced using handhelds and a teacher computer.

SAT - M13

VISUALIZATION OF SOLIDS OF REVOLUTION AND SOLIDS BY CROSS-SECTIONS USING MATHEMATICA

Loyola A

Nancy Ziegler, *Mason High School*

12:30 PM - 2:15 PM

This calculus computer minicourse teaches the Mathematica statements used to create solids of revolution and the solids formed with cross-sections perpendicular to a given axis. It is designed to help students better visualize the solids and set up the integrals used to find the volume of these solids.

SAT - M14

HOW TO REACH THE VISUAL AND AUDITORY LEARNER ON THE INTERNET WITH VIDEO

Loyola B

Scott McDaniel, *Middle Tennessee State University*

12:30 PM - 2:15 PM

Using a relatively inexpensive software, TechSmith's Camtasia, one can readily create slideshow or full motion video tutorials that can be streamed onto the web in a variety of file formats (e.g. AVI, QuickTime, Flash, Real Player). The Virtual TI, an emulator for the TI calculators (e.g. 82,83,85,86,89), allows one to develop tutorials that are deliverable on the web.

Saturday, October 30, 2004

SAT - M15 **INTRODUCTION TO AiM (ASSESSMENT IN MATHEMATICS):
A FREE LEARNING AND ASSESSMENT TOOL**
Loyola A Friedhelm Schwarz, *University of Toledo*
2:30 PM - 4:15 PM

AiM is a noncommercial product for creation, administration, and grading of online homework, quizzes, and exams. The mathematical content is generated and graded in Maple; formula representation is delivered via LaTeX. Participants will create a short exam containing algorithmically generated problems for a calculus-based course, featuring graphics, partial credit, and individualized feedback.

SAT - M16 **INTERCONNECTIVITY - DATA EXCHANGE BETWEEN DERIVE 6 AND TI HANDHELDS**
Loyola B Bernhard Kutzler, *Austrian Center for Didactics of Computer Algebra*
2:30 PM - 4:15 PM

The new Derive 6 offers a powerful new feature called "interconnectivity", which allow data exchange between Derive and the TI CAS handhelds. In this hands-on workshop, you will learn to perform this data exchange and you will learn to use the combination of software and handheld as a powerful teaching and learning environment. Thus you will experience a very fine example of the slogan "The whole is more than the sum of its parts."

SAT - M17 **WRITING AND TEACHING WITH MAPLETS**
Loyola A Douglas Meade, *University of South Carolina*
4:30 PM - 6:15 PM Philip Yasskin, *Texas A&M University*

Maplets are JAVA applets written with Maple that retain all the algebraic computational power of Maple. You will will learn how to write Maplets and how to incorporate them into your calculus classes. We will also discuss the relative merits of the Maplet and worksheet environment.

SAT - M18 **FLASH AND SHOCKWAVE APPLICATIONS FOR TEACHING AND LEARNING MATHEMATICS**
Loyola B Doug Ensley, *Shippensburg University*
4:30 PM - 6:15 PM Frank Wattenberg, *U.S. Military Academy*

Macromedia Flash and Director are popular tools for building graphical interactivity into web pages with the aid of free Flash and Shockwave browser plug-ins.