

OMEC Meeting Notes

Friday, May 19, 2006

9:00-12:00

Hewlett-Packard Site, McFadden A

Present: Mike Boardman, Pacific University
Susan Boyanovsky, Community College and Workforce Development
Kathy Hall, Hewlett Packard
Karen Higgins, Oregon State University
Klay Kruczek, Western Oregon University
Phyllis Leonard, Chemeketa Community College
Karen Marrongelle, Portland State University
Kathi Quick, Summit High School, Bend-LaPine SD
Nicole Rigelman, George Fox University
Rick Sorenson, Vernier Software

Guests: Elia Freedman, Infinity Softworks
Andrew Jonca, Infinity Softworks

1. 3rd year HS mathematics – recommendations to PPS and others (Phyllis, Klay and Mike)

Documents reviewed to make the recommendations include OUS and other state universities admission requirements in mathematics and Associate of Arts Oregon Transfer mathematics requirements (AAOT). Current minimum requirements for math are MATH 105 Liberal Arts Math or MATH 111 College Algebra. Based on the current system, prerequisite courses needed for MATH 105 and MATH 111 include content equivalent to Algebra I, Geometry and Algebra II.

A set of course criteria proposed for general education collegiate courses includes:

- 1) Use the tools of arithmetic and algebra to work with more complex mathematical concepts.
- 2) Design and follow a multi-step mathematical process through to a logical conclusion.
- 3) Create mathematical models, analyze these models, and, when appropriate, find and interpret solutions.
- 4) Choose from a variety tools to determine the best method of analysis.
- 5) Analyze and communicate both problems and solutions in ways that are useful to others.
- 6) Use mathematical terminology and notation appropriately and correctly.

The above recommendations are process oriented. No specific comments are made regarding content other than algebra. Should there recommendations regarding specific content such as geometry or data analysis and probability?

Mike also distributed a proposal for a course that will satisfy the third year requirement for high school graduation that is different from the “typical” Algebra II. This document communicates outcomes and topics as well as a general statement regarding instructional approach recommending use of the *Navigations* (National Council of Teachers of Mathematics) series and *Math and the Mind’s Eye* (The Math Learning Center) materials.

Kathi Quick asked if community college and university faculty wants a more contextually-based Algebra II. Individuals around the table said “yes.” Mike noted the connection to the calculus reform debate. Not only do individuals understand content but also develop problem solving abilities and strategies for thinking mathematically. Karen Marrongelle suggested that this consistently an area with limited understanding – individuals choose a side in the debate without really knowing the outcomes for students in the reform-based programs.

Klay also commented that the missing piece for many is that students are not taking math in their fourth year of high school. The best advising would be to suggest that if you are only taking three years of college then take the 3rd year during your senior year so that there isn’t a break in mathematics learning before college.

Arizona requires 4 years of high school mathematics. California state system requires 3 years but recommends 4 years. Phyllis posed the question “can OMEC make a recommendation to PPS and other Oregon high schools regarding what to require for third year mathematics for students so that students don’t have to take a remedial course in college?”

Karen Marrongelle suggested that it would be helpful if university faculty could make recommendations regarding that type of mathematical learners – outcomes and criteria for how we want students to act and interact as mathematicians. Kathi suggested that if there is this change in the format and expectations of an Algebra II course that it could push back on Algebra I and Geometry.

Associate of Applied Sciences degree requires MATH 052 or MATH 095 but there are also huge variations. Some certificate programs embed the mathematics in other courses. Rick pointed out that we really have two different topics: one is with regard to the course requirements, the second is with regard to instructional approach. The suggestion was made to deal with these topics separately.

2. OPAS Proposal: H.S. math to encourage Computer Interests - Susan Boyanovsky

Engineering and Technology Industry Council (ETIC) (an industry-based committee working closely with OUS system to increase the number engineering and CS majors) interested in targeting High Schools knowing that they need to get students interested early. Give students experiences with contexts and programming, structures, and algorithms. Group is interested in partnering with OMEC to make recommendations regarding increasing contextually-based learning while also giving them a taste of

computer science. A suggestion was that the content could be added to discrete mathematics course or other 3rd year options for students.

Kathi Quick suggested that there weren't many (any?) courses at the high schools in central Oregon other than the typical Algebra I, Geometry, Algebra II, Pre-Calc, and Calc. She said that some teachers have students programming with TI calculators but are really not including computer programming.

Mike expressed concern regarding having the 3rd year requirement have this focus instead of Algebra II. Phyllis wondered about seeing this content included in an analysis course or Pre-Calc or Calculus courses including the use of computers. ETIC would like to see a course offered at the high school level that would target students who have completed Algebra II, content could be included in discrete or finite mathematics. Mike suggested that this could be the 4th year course. Unfortunately, high schools do not have such a course. Funding is an issue; the course would replace an existing course as there aren't monies to add a teacher. Integrating the content into existing courses (e.g., Pre-Calc) may be a way in getting students excited about programming. Physics is another content area where programming could be addressed... supporting the intuitive nature of the concepts.

State Board of Education and Joint Boards – a governing body providing recommendations for K-12 and Community Colleges. There is alignment for reading and writing scores but a variance of math scores and want to put together a task force to look at the issues. Community Colleges are disgruntled with the ACT Compass testing that is being used (and is nationally-normed). Phyllis mentioned that Lane CC has developed a placement test because ACT Compass has not worked well. She suggested that the chair for advising and counseling at Chemeketa CC was relieved to hear that a change is being discussed.

Two legislations in the last year have been developed targeting alignment of courses and seamless of transfer of credit, at risk students, etc. These prompted the Outcomes conference. Additional topics have included AP cut scores and credit for AP courses, there is information on the OUS website regarding the decisions. Movement for a virtual school district – there will soon be a portal for students with access to courses and a portal for faculty with access to curriculum.

3. MathPoint™ Solution – Infinity Softworks, Elia Freedman and Andrew Jonca
Presentation of this web-delivered tool for classroom use. It includes tools for experimentation, open library of lessons/activities, and training for classroom integration.

4. Announcements

Oregon ASA would like to get involved with OIMT supporting with prizes. Kathy will connect with Klay and/or Laura Lethe.

Karen Marrongelle requested a letter from OMEC recommending the full 211, 212, and 213 sequence for all preservice elementary teachers. Linda Samek and Keith Menk have

submitted a grant proposal to develop competencies for elementary teachers. Kathy Hall will connect with Linda Samek to draft a letter for PSU's Graduate School of Education.

Officers:

President – Mike Boardman

President Elect – Phyllis Leonard

Secretary – Nicole Rigelman

Webmaster – Mike Boardman

Meetings:

- Saturday, October 14, 2006 – based on the date for NWMC in BC is October 21
- Friday, February 2, 2007 – joint meeting OSEC
- Friday, May 18, 2007