

**Minutes of Math Issues Committee**  
**Friday, November 10, 2006**  
**Capital Community College, Room 1122**

The meeting convened at 11:15 a.m.

**Present** — Alice Burstein (Middlesex), Jean-Marc Cenet (Tunxis), Robert Clark (Tunxis), Elaine Dinto (Naugatuck Valley), Andre Freeman (Capital), Miguel Garcia (Gateway), Diane Hillyer (Manchester), Joe Karnowski (Norwalk), Mark Leach (Housatonic)

**MAT (Math Alignment and Transition) Council request —**

Guests Alain D'Amour (Southern Connecticut State University) and David Gross (University of Connecticut) asked Committee members to consider becoming involved in the Algebra 2 (high school)/Intermediate Algebra (college) alignment project. The Council (composed of high school faculty and coordinators, CSDE 9-12 Math Consultant, 2- and 4-year college math faculty) is working to affect a pedagogical change in focus, using a functions approach, in high school algebra 2 courses. Project goals include (1) reducing the number of high school students placing into developmental math courses and (2) aiding students in attaining fundamental knowledge (concepts/connections) now missing for even higher-level students. The Council is looking for more college math faculty volunteers to work in either of these areas: (1) expansion of the document, including teacher-friendly, easy to use lessons, thereby assisting high school algebra 2 faculty in changing their focus to a functions approach; (2) generating assessment tools such as sample projects and tests, and writing course outcomes. Those interested should contact Alain at [damour1@SouthernCT.edu](mailto:damour1@SouthernCT.edu) or (203) 392-5579.

**Minutes** from October 13, 2006, were approved.

**Algebra 2/Intermediate Algebra —**

A lengthy discussion concerning "equivalency" of algebra 2 (high school) and intermediate algebra (college), the Connecticut State Department of Education's June 9, 2006 document, *Framework for Connecticut's High Schools: A Working Guide for High School Redesign*, and the ramifications if no college degree credit were to be given for intermediate algebra (discussed at the last Academic Deans' Council meeting) ensued.

Alice will write a statement listing possible effects of eliminating credit for intermediate algebra and reasons that Math Issues members believe those involved in affecting changes must realize the scope of any decisions and proceed slowly on this issue. Issues discussed by Committee members include the following —

**Reason to eliminate college credit for intermediate algebra:**

Material covered in intermediate algebra in college is high school (Algebra 2) level material (or at least this used to be the case). Colleges in a number of states (Arizona, Illinois, Missouri, New York) consider intermediate algebra in college as developmental mathematics; academic expectations for Connecticut students should not be less than those for students in other states. Pat and Mark will do some research on how 2- and 4-year institutions in other states handle this situation.

**Reasons not to rush into eliminating college credit for intermediate algebra:**

1. For average students (approximately 25<sup>th</sup>-75<sup>th</sup> percentile in their high school classes, much of our community college population), **algebra 2 and intermediate algebra taught in college are not equivalent.**
  - **Total alignment of these courses, if possible, will take years.**
    - The majority of high school textbooks do not use a function approach. Many students memorize steps but do not make connections, and do not come to college prepared for higher-level mathematics or the mathematics needed in other disciplines.
    - Most high school teachers, especially new teachers, rely on their textbooks and textbook supplements when planning lessons and creating tests. Much professional development, with total commitment from districts, will be needed to affect a change.
  - **Minimum competencies must be required**, but how to test competencies is another complicated issue.

2. Currently **4-year Connecticut public institutions grant credit for intermediate algebra**. CSU gives general elective college credit, *not* satisfying any math requirement, and UConn has a new 3-credit, 5-hour per week, Math 104Q, *Introductory College Algebra and Mathematical Modeling*, recommended for students whose high school algebra needs reinforcement. It makes no sense, especially considering that community colleges have open enrollment, to allow no community college credit for intermediate algebra when public 4-year institutions in our state do give credit.
3. The **rationale** that "algebra 2 is taught in high school" is not a logical one for eliminating college credit for intermediate algebra (for example, precalculus and calculus are also taught in high school, as are English, history, biology, etc.).
4. **Impact on existing programs** must be considered.
  - Intermediate algebra at the college (or placing out of that course on a college placement test) is the proposed prerequisite for the revised Nursing Program. (No college math courses are required for Nursing!)
  - Currently many programs in several community colleges use successful completion of intermediate algebra as the math requirement for that program, so any change would affect many students.
    - The community colleges have open enrollment and serve a diverse population. Many students, including some who never took algebra in high school, find the level of abstraction required in intermediate algebra to be extremely difficult.
    - The length of time a student will attend a community college will increase for students who must take prealgebra, elementary algebra, and now intermediate algebra, all with no credit, prior to their 100-level course. This will discourage some students from earning an Associate's Degree.
    - Intermediate algebra is essential for higher-level math courses and for developing analysis skills. While it should remain a prerequisite for transfer to 4-year institutions, there are other math courses, with no intermediate algebra prerequisite, in which students can learn real mathematics and become informed citizens (e.g., quantitative literacy and liberal arts courses). Some colleges offer these courses while others would have to develop them in addition to changing program requirements.
5. **Inconsistency exists with CC-Tech Prep issue**.
  - Some Connecticut Tech prep coordinators have interpreted federal law to say that only *college-level* courses (e.g., MAT\* 136, 137, 138, some variety of intermediate algebra) can be articulated. This is inconsistent with calling intermediate algebra a high school level course.

#### **Syllabi (common topics) for MAT\* 190 and above —**

Discussion of common topics was tabled due to lack of time. Thanks to everyone who brought or emailed syllabi. Math Issues members were asked to review syllabi (for courses 190 and above) from their own colleges and to compare with the list of topics agreed to for common numbering. Please see Common Topics attachment and be prepared to report at the next meeting whether or not your college is in compliance with the agreed to topics.

#### **Announcements/other comments —**

**Next Math Issues meeting is at Middlesex Community College** on December 8, 2006, 11:00, Pegasus Gallery. See MATYCONN website, <http://www.nv3.commmnet.edu/matyconn> (select *Math Issues*), or <http://www.mxcc.commmnet.edu/about/directions.shtml> for directions to the Middletown campus.

#### **Agenda items for next meeting —**

- (1) Proposed procedure for new common courses (Pat will bring revised copy)
- (2) Tech prep agreements; please see *Tech Prep* attachment and send corrections for your college to Elaine
- (3) Math Requirements for *General Studies* and *LAS* programs; please see *LAS-General Studies* attachment and send corrections/revisions for your college to Elaine
- (4) Syllabi (common topics) for MAT\* 190 and above; be prepared to report whether or not your college complies with the agreed to topics for each course numbered 190 or above (See *Common Course Numbers, Titles, Rationale, Content* attachment for topics)

The meeting adjourned at 12:55 p.m.

Respectfully submitted,  
Elaine Dinto