

**New Jersey Presidents' Council
Mathematics Task Force 2007
Report and Recommendations
March 2007**

The Charge to the Task Force (from Dr. Edward Yaw, NJPC Chair, January 2007)

- Review the mathematics component of the General Education parameters as outlined in the New State-Wide Transfer Agreement, approved by the NJPC Executive Board on December 22, 2006.
- Issue a report and recommendation to the Presidents' Council by March 19, 2007

I. Background

While New Jersey's higher education system serves many students well, significant issues have persisted since the establishment of community colleges in the 1960s in regard to student transfer from community college associate degree programs into baccalaureate programs in the state's colleges and universities. Chief among these issues has been General Education, i.e., "What do our students need to know to be educated citizens?"

Within General Education, one of the most challenging areas is mathematics. What level of math knowledge and skill should we require for science majors? For social science, business, or other majors? Answering these questions of course raises issues of mission differences among New Jersey's colleges and universities. For example, a requirement that all students must take Calculus is an appropriate college-wide requirement for institutions focusing on science and technology, but not for many other institutions.

The longstanding debates within the mathematics community as to what students need to know at all levels of the education system—K-16—is complicated by changing standards in high school graduation requirements and the impact of these changes on colleges and universities. The New Jersey High School Redesign Steering Committee is currently leading a "statewide conversation on high school reform," whose focus on "required skills for students entering the workforce or going on to further education" has again brought high school mathematics standards under public scrutiny. This process is likely to lead to upgraded statewide high school graduation requirements that may require all graduates to demonstrate proficiency at the intermediate algebra level.

In recent discussions among New Jersey's college and university presidents that led to the New State-Wide Transfer Agreement about "seamless" transfer of credits, the discussion of math requirements marked a crucial point of disagreement. Rutgers, in particular, stated its concern that intermediate algebra, which most campuses of the University require for admission of all "native" students, should not be included among the general education courses transferred by AA/AS students. The NJ Presidents' Council established this Task Force to stimulate further

collegial processing of this concern in relation to other realities facing higher education institutions, and community colleges in particular, including:

1. large numbers of underprepared students who have already completed high school;
2. large numbers of adult students who completed high school years ago, many of whom did not attend high school in New Jersey;
3. large numbers of other students for whom there has been a length of time since the last math course;
4. large numbers of students pursuing non-mathematics-intensive majors; and
5. relative ease of mathematics course credit transfers into baccalaureate programs in reputable out-of-state institutions.

II. Review of the Mathematics Component of the Statewide Transfer Agreement

The Task Force recognizes the need to find a solution that respects the legitimate concerns of all parties to the Agreement:

1. The Task Force recognizes that some four-year institutions have adopted intermediate algebra as a requirement for admissions, and that baccalaureate majors in mathematics, engineering, natural science, social science, business – among others – generally expect higher levels of proficiency in mathematics than other majors. Students who are considering transfer to such institutions and majors should be advised of these requirements when they begin their first math course.
2. The Task Force recognizes a need for further review of the professional standards for algebra from appropriate professional organizations.
3. The Task Force recognizes the need for colleges to continue to deliver for college credit in non-mathematics-intensive programs General Education mathematics courses that have a prerequisite of elementary algebra and are consistent with the guidelines and standards of major professional organizations.

III. Recommendations

1. The Task Force recommends that the NJPC adopt the attached interpretive statement regarding the mathematics component of the General Education parameters in the New Statewide Transfer Agreement.
2. The Task Force recommends that the NJPC establish a working group among mathematics faculty members in all sectors to continue a purposeful dialogue on best practices in mathematics education, with a particular focus on ensuring a seamless transfer process for students.

NJ Presidents' Council

Interpretive Statement

re the Mathematics Component of the General Education parameters in the
New Statewide Transfer Agreement

Proposed March 2007 by the NJPC Mathematics Task Force

1. Transfer of General Education Mathematics Courses
General Education mathematics courses that have a prerequisite of basic algebra shall be included among the courses for which students pursuing non-mathematics-intensive programs are awarded General Education transfer credit under the Agreement.
2. Transfer of Courses in Intermediate Algebra
The policies that apply to “native” students at the baccalaureate institution shall determine whether the New Statewide Transfer Agreement requires a baccalaureate institution to grant, or permits it not to grant General Education transfer credit for courses in intermediate algebra:
 - a. If a baccalaureate institution grants credit for intermediate algebra courses to its “native” students, then it must accept intermediate algebra courses for transfer credit.
 - b. If a baccalaureate institution does not grant credit for intermediate algebra courses to its “native” students, then it is not required to accept intermediate algebra course credits toward fulfillment of bachelor’s degree requirements. In the event that a transfer student does not have 60/64 credits exclusive of intermediate algebra, then Item A.4 of the New Statewide Transfer Agreement shall be deemed applicable, and the baccalaureate institution may require the student to take an additional course.¹
3. Transfer of Mathematics Courses Prerequisite to a Baccalaureate Major’s Requirements
For students transferring into a mathematics-intensive bachelor’s degree major (i.e., one in which the baccalaureate institution does not grant “native” students graduation credit for credit-bearing mathematics courses that are prerequisites to the program’s first required mathematics course), Item A.4 of the New Statewide Transfer Agreement shall be deemed applicable.
4. Importance of Student Advisement
Each participating institution must ensure that its students are fully advised of the impact of their mathematics course selections in their planning for a major and for transferring credits.

¹ A.4: *The only reason a student would be required to take more than the standard half of credits for the four-year degree is if entrance into a required course at the four-year institution requires a prerequisite course which the student has not completed at the community college, and the student cannot fit that prerequisite within the remaining credits to be taken at the four-year institution. The four-year institutions will make such prerequisite information clear so that students can take appropriate coursework at the community college.*