

Assessment Update for Math 111, 112, 123 2011-2012

The materials included with this memo are submitted to you for review from the Kansas Board of Regents and concurrent enrollment classes are reviewed annually by faculty in the discipline. As the Director of the Wichita State University College Algebra Program and a professor in the Department of Mathematics, Statistics and Physics, I am the faculty member who has been requested to review the mathematics courses M111 (College Algebra), M112 (Pre-calculus), and M123 (Trigonometry).

I have included an updated Assessment Plan that details what and how we assess

classes. We have offered advice and training and have interchanged ideas concerning how to deliver a consistent high quality mathematical product that meets or exceeds our

the same ones given to the university faculty. We try to maintain good relationships with our high school faculty and try to encourage their efforts and provide all necessary support. Since (in any given year) almost all the mathematics concurrent enrollment classes are offered in the Spring, most of our contacts occur during the winter and spring. Overall, I can report that Spring 2012 went very well with no complaints from students or parents or faculty (of which I am aware). I believe high standards are being maintained. The concurrent enrollment faculty are high quality experienced teachers who have solid

only high school students with an A or B in the fall semester in one of the year long

students who either did not take these courses in high school or who failed these classes or who have had a long time gap between these courses and their prerequisites. We are comparing some of the best high school students in the concurrent enrollment classes with a much less qualified group in our on campus classes.

Stephen W. Brady

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## Concurrent Enrollment Assessment Plan

Prepared by:

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Universities recommend that any high school student who wishes to attend any university

or college should be prepared to take the first college level course in mathematics

at any university or college. The first college level course in mathematics

education basic skill requirements in mathematics for graduation came from the

training in mathematics. Due to our previous open admission policy many were admitted

with less than adequate mathematics background to be successful in college. The idea

was to raise them to a college entry level of mathematics before they graduated from

the school. It was felt that the best way to do this was to require that all students

take a mathematics course during their high school years. This was done in 1970

and the results were very good. The mathematics background of the students

graduating from the school has improved significantly. It is felt that the

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### College Algebra

For the last twenty one years the comprehensive departmental final for Math 111

has been given by the Department of Mathematics at the University of North Carolina

at Chapel Hill. This final exam is given at the end of the semester and is

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any overall assessment of college algebra courses. Comparisons will be made between these classes, university classes, and those concurrent enrollment classes using the university final exam. The university's final assessment is used to assess each concurrent enrollment class to evaluate student perception of the instructor and course. In addition, any high school assessment or student learning outcomes that is part of a concurrent enrollment course will be requested from the school and compared with our own assessments.

The prerequisites for university College Algebra classes are two years of high school algebra or equivalent and a satisfactory score on the department placement exam or math ACT exam or math SAT exam. Satisfactory scores have been determined to be 15 of 32 on the department placement exam, 20 for math ACT, and 490 for math SAT. The department placement exam is a diagnostic test that assesses student's mathematical preparation. Part of the way to our direct student learning outcomes in College Algebra is to make sure the student is (mathematically) ready to enroll in the course. The department feels that our remedial courses themselves have been excellent preparation. The placement exam is also working well. Most high school mathematics concurrent enrollment courses involve the second semester of a two-semester sequence. In order to qualify for concurrent enrollment in such a course, an A or B is required in the first above average achievement in previous semesters.

College Algebra has the following overall course outcomes:

1. Build a foundation for mathematical problem solving.
  1. Apply problem-solving techniques to model both mathematical and real-world contexts.
  2. Communicate mathematical ideas using a variety of representations while reading, writing, speaking, and listening.
  3. Apply mathematical concepts to solve problems in a variety of contexts, including application in other settings.

recommended in College Algebra, the time to be spent on each text section, and the outcomes for each text section. The university final exam is closely tied to these outcomes. Each university class section in College Algebra uses the same book and materials. Each textbook may be different from ours and differ from district to district; this is not a problem since texts used in the high schools are standard college level texts acceptable for our courses and cover the same material. The university course syllabus for College

concurrent enrollment teachers as well as both sample finals and previous university course finals. Concurrent enrollment teachers are encouraged to utilize as much of this material as is possible. One or two meetings (training sessions) have been held each year since 2006 with all the mathematics concurrent enrollment teachers. Course procedures, final exams, assessments, and curricula have been discussed at these meetings with the

each fall for preparation for the spring concurrent enrollment classes. Meetings may be held in the spring to discuss the spring classes and finals. Concurrent enrollment instructors ask to sit in on a summer university courses for the purpose of gaining additional training and experience. We encourage such training experiences.

A standing committee composed of experienced faculty oversees the university course contents, the textbook, the length of time to be spent on topics, etc. The mathematics portion of the basic skills requirement is overseen by a professor in the department of Mathematics and Statistics who carries the title of College Algebra Director. Concurrent

The overall rules governing College Algebra as concurrent enrollment will be the same as those for the university equivalent.

#### **Trigonometry, Math 123 and Math 112, Pre-Calculus**

Trigonometry, Math 123, is considered to be equivalent to MATH 112 and is an alternate path

Concurrent enrollment class assessments will be compared to our Instructor's assessments of their courses.

SPRING 2012 Pe

# of Students	Grade A	Grade
42	11	
	23%	3

Passed with C or better:

for CONCUR

Grade Distri

Grade D	C
4	2

th 123 Grades

rp / Wd	INC	Audit
0	0	0

40 = 95%

**SPRING 2012 Percent**

**CURRENT Math 112 Grades**

Tra		Distribution	
# of Students	Grade A	Grade B	C
138	64	58	
	46%	42%	

Distribution				
Grade F	Drp / Wd	INC	Audit	
0	1	0	0	0

Passed with C or better:

137 = 99%

The 'passed with C or better' is actually

if the students dropped.

SPRING 2012 Percentages for CONCURRENT Math 111 Grades

Transcript Grade Distribution

# of Students	Grade A	Grade B	Grade C	Grade D	Grade F	Drp / Wd	INC	Audit
133	52	48	28	2	1	2	0	( )
	39%	36%	21%					

Passed with C or better:

128

= 96%

**SPRING 2012 Percentages for W**

Transcript

# of Students	Grade A	Grade B	C
604	120	151	
With Drp/Wd	20%	25%	
Without Drp/Wd	21%	27%	

Passed with C or better plus Drp/Wd:

Passed with C or better minus Drp/Wd:

**and CONCURRENT Math 111 Grades**

Grade Distribution

Grade	Grade D	Grade F	Drp / Wd	INC	AL
	49	108	42	0	3
	8%	18%	7%		
	9%	19%	7%		

391 = 3%

391 = 3%



**SPRING 2012 Percentages for WSU and CONCURRENT Math 112 Grades**

Transcript Grade Distribution

# of Students	Grade A	Grade B	Grade C	Grade D	Grade F	Drp / Wd	INC	Audit
210	73	73	26	9	19	10	0	0
	35%	35%	12%	4%	9%	5%		

Passed with C or better plus Drp/Wd:  
 Passed with C or better minus Drp/Wd:

172 = 82%  
 172 = 86%

**SPRING 2012 Per**

**for WSU and CONCURRENT Math 123 Grades**

**Transcript Grade Distribution**

# of Students	Grade A
177	31
	18%

Passed with C or better  
 Passed with C or better

Grade C	Grade D	Grade F	Drp / Wd	INC	Audit
39	20	18	31	0	2
20%	11%	10%	18%		

Vd: 106 = 60%  
 /Wd: 106 = 73%