2007-2008 KANSAS CORE OUTCOMES PROJECT

The Kansas Core Outcomes Project was initiated in 1999 by the Kansas Council of Instructional Administrators, a group comprised of the chief academic officers of the state's community college and vocational-technical schools/colleges. The goal of this project was to develop core outcomes and competencies for general education courses at the state's colleges and universities.

The first meeting for the project was held in fall 1999 at the Southside Educational Center in Wichita. Faculty were invited to that meeting from the state's 19 public community colleges, six Regents' universities and Washburn University and represented six disciplines – biology, computer science, English, mathematics, sociology, and speech. A second meeting, in spring 2000, was conducted at Emporia State University, and three additional disciplines – history, chemistry, and psychology – were added to that initial group of six. A third meeting, again at Southside, was conducted in January 2001. Another meeting of the core competency groups was held in September of 2002. In addition, disciplines such as English, speech and mathematics have scheduled other, independent meetings subsequently.

The Core Competency meetings were originally financed through the KCIA budget. Each institution made a commitment to their faculty and supplied them with finances for lunch and travel. Due to increased budget decreases and the time commitment for our faculty, it was decided that the meetings would be held annually in the fall semester in the coming years. Further Core Competency meetings met in 2005 and 2006 which have reports filed with the Kansas Board of Regents.

At its retreat in the summer of 2007, the KCIA members decided that the project needed a comprehensive list of courses that have been evaluated in each area and a standard format for reporting of   the reviews and outcomes as well as minutes. For this reason, the report follows a standard format for each discipline even though the information such as the course titles may not be there.   Dr. Roxanne Kelly agreed to see that these would be posted on the KBOR website so that faculty would have easy access to the information.

All disciplines were invited to participate in the September 14, 2007 meeting held at the Hughes Metropolitan Complex, as well as, submit their work on a standard template that could be forwarded to the Kansas Board of Regents. The following disciplines met: Anthropology, Chemistry, Computer Science, English, Math, Psychology, and Philosophy. Although Biology, Speech, and Theatre did not meet they submitted their previous decisions and work in the standard format as requested. This was the first meeting for the philosophy group.

The format of this document will present the Core Outcomes information in the first section and the minutes in the last section.

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Core Outcomes

Discipline: Mathematics

General Course Title: College Algebra

Date: ?; revised 9/2004

Course titles from each participating College/University for which the core competencies apply:

Course title	Course Number	Credits	Institutions
College Algebra	MAT 105	3	Allen
College Algebra	MATH 1828	3	Barton
College Algebra	MA 135	3	Butler
College Algebra	MA 111	3	Cloud
College Algebra	MATH 105	3	Coffeyville
College Algebra	MA 178	3	Colby
College Algebra	MTH 4420	3	Cowley
College Algebra	MATH 106	3	Dodge City
College Algebra	MA 110	3	Emporia
College Algebra	MA 110	3	Fort Hays State
College Algebra	MAT 1083	3	Fort Scott
College Algebra	MATH 108	3	Garden City
College Algebra	MAT 104	3	Highland
College Algebra	MATH 171	3	Johnson County
College Algebra	MA 106	3	Hutchinson
College Algebra	MAT 1023	3	Independence
College Algebra	MATH 105	3	Kansas City Kansas
College Algebra	MA 1717	3	Labette
College Algebra	MATH 113	3	Neosho

College Algebra	MTH 178	3	Pratt
College Algebra	MATH 113	3	PSU
College Algebra	MATH 100	3	KSU
College Algebra	MA 1173	3	Seward
Algebra	MATH 101	3	University of Kansas
College Algebra	MA 116	3	Washburn
College Algebra	MATH 111	3	Wichita State University

Comments:

Core Competencies:

Students will be expected to use appropriate technology as one tool to achieve the following outcomes:

I. Analysis and graphing of functions and equations

The student should be able to:

A. Use functional notation.

B. Recognize and distinguish between functions and relations (equations).

C. Use concepts of symmetry, intercepts, left- and right-hand behavior, asymptotes, and transformations to sketch the graph of various types of functions (constant, linear, quadratic, absolute value, piecewise-defined, square root, cubic, polynomial, rational, exponential, and logarithmic) or relations (circle) given in description.

D. Determine the domain and range of a function.

E. Write the equation that describes a function (for types given above) or circle given its description.

F. Use graphs of functions for analysis.

G. Find arithmetic combinations and composites of functions.

H. Find the inverse of a function.

II. Solutions of equations and inequalities

The student should be able to:

A. Solve equations listed in I (C), i.e. literal equations, quadratic equations by factoring and quadratic formula, equations involving rational expressions, equations involving radicals and equations involving absolute value expressions, along with equations involving exponential or logarithmic functions.

B. Solve inequalities of the following types: linear (in one and two variables), polynomial, rational, absolute value.

C. Solve systems of inequalities by graphing.

D. Apply equations from II (A) to real-world situations, including but not limited to depreciation, growth and decay, max/min problems.

E. Examine and analyze data, make predictions/interpretations, and do basic modeling.

F. Solve systems of equations by various methods, including matrices.

Comments:

These were last modified in 2004.

Participants:
Not available

Discipline: Mathematics

General Course Title: Intermediate Algebra

Date: ?

Courses titles from each participating College/University for which the core competencies apply:

Course title	Course Number	Credits	Institutions
Intermediate Algebra	MAT 020	3	Allen
Intermediate Algebra	MATH 1824	3	Barton
Intermediate Algebra	MA 125	3	Butler
Intermediate Algebra	MA 110	3	Cloud
Intermediate Algebra	MATH 102	3	Coffeyville
Intermediate Algebra	MA 177	3	Colby
Intermediate Algebra	MTH 4410	3	Cowley
Intermediate Algebra	MATH 091	3	Dodge City
Intermediate Algebra	MA 098	3	Emporia
Intermediate Algebra	MA 010	3	Fort Hays State
Intermediate Algebra	MAT 1073	3	Fort Scott
Intermediate Algebra	MATH 107	3	Garden City
Intermediate Algebra	MAT 103	3	Highland
Intermediate Algebra	MATH 116	3	Johnson County
Intermediate Algebra	MA 105	3	Hutchinson
Intermediate Algebra	DEV 0334	3	Independence
Intermediate Algebra	MATH 104	3	Kansas City Kansas
Intermediate Algebra	MA 1718	3	Labette
Intermediate Algebra	MATH 112	3	Neosho

Intermediate Algebra	MTH 130	3	Pratt
Intermediate Algebra	MATH 019	3	PSU
Intermediate Algebra	MATH 010	3	KSU
Intermediate Algebra	MA 1103	3	Seward
Intermediate Math	MATH 002	3	University of Kansas
Intermediate Algebra	MA 104	3	Washburn
Intermediate Algebra	MATH 012	3	Wichita State University

Comments:

Core Competencies:

It is assumed that students entering an Intermediate Algebra course will have competencies from prerequisite courses. Students will be expected to use appropriate technology as one tool to achieve the outcomes listed below.

 1. Arithmetic and Algebraic Manipulation

The student should be able to

    A. Factor quadratic expressions, expressions of quadratic form, special
forms, and factor by grouping.

    B. Perform addition, subtraction, multiplication, and division on rational
expressions.

    C. Simplify complex fractions.

    D. Apply the laws of exponents to simplify expressions containing rational
exponents.

    E. Apply the laws of radicals to perform addition, subtraction, and
multiplication on expressions involving radicals.

    F. Rationalize denominators containing radicals.

    G. Simplify radicals containing negative radicands.

    H. Perform arithmetic operations on complex numbers.

    I Evaluate functions using function notation.

II Equations and Inequalities

The student should be able to

    A. Solve linear inequalities in one variable showing solutions both on the real
number line and in interval notation.

    B. Solve literal equations, including those that require factoring.

    C. Solve systems of linear equations in two variables.

D. Solve equations by factoring and quadratic formula.

E. Solve equations containing rational expressions.

F. Solve equations involving radicals.

G. Solve linear absolute value equations and inequalities in one variable.

H. Develop and solve mathematical models including variation, mixture, motion, work, and geometrical applications.

III. Graphs on a coordinate plane

The student should be able to

A. Graph linear inequalities.

B. Graph quadratic functions.

IV. Analysis of Equations and Graphs

The student should be able to

A. Determine an equation of a line given either sufficient information (two points) or a particular condition (perpendicular to a given line, parallel to a given line through a specific point, through a specific point with a given slope, etc.).

B. Calculate the distance between two points.

C. Distinguish between functions and relations using the Vertical Line Test.

D. Identify the domain and range of a function given its graph.

Comments:

Participants:

Not available

Discipline: Mathematics

General Course Title: Calculus I

Date: September 14, 2007

Courses titles from each participating College/University for which the core competencies apply:

Course title	Course Number	Credits	Institutions
Calculus w. Analytic Geometry I	MAT 123	5	Allen
Analytic Geometry & Calculus I	MATH 1832	5	Barton
Calculus w. Analytic Geometry I	MA 151	5	Butler
Analytic Geometry & Calculus I	MA 120	5	Cloud
Calculus w. Analytic Geometry I	MATH 115	5	Coffeyville
Calculus I	MA 220	5	Colby
			Colby
Calculus I	MTH 4435	5	Cowley
Analytic Geometry & Calculus I	MATH 120	5	Dodge City
Calculus I	MA 161	5	Emporia
Analytic Geometry & Calculus I	MA 234	5	Fort Hays State
Calculus w. Analytic Geometry I	MAT 1015	5	Fort Scott
Calculus & Analytic Geometry I	MATH 122	5	Garden City

Calculus I	MAT 106	5	Highland
Calculus I	MATH 241	5	Johnson County
Analytical Geometry & Calculus I	MA 111	5	Hutchinson
Analytic Geometry & Calculus I	MAT 1055	5	Independence
Calculus & Analytic Geometry I	MATH 122	5	Kansas City Kansas
Calculus I	MA 1751	5	Labette
Analytic Geometry & Calculus I	MATH 150		Neosho
Analytical Geometry & Calculus I	MTH 191	5	Pratt
Calculus I	MATH 150	5	Pittsburg St. U
Analytical Geometry & Calculus I	MATH 220	5	KSU
Analytic Geometry & Calculus I	MA 2605	5	Seward
Calculus I	MATH 121	5	University of Kansas
Calculus & Analytic Geometry I	MA 151	5	Washburn
Calculus I	MATH 242	5	Wichita State University

Comments:

Core Competencies:

Not agreed upon at this meeting

Comments:

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Core Outcomes Project Minutes

September 14, 2007 Meeting

Mathematics-minutes

Date and place of meeting:

Friday, Sep. 14, 2007, at the Hughes Metropolitan Complex, Wichita State University

Members present:

David Bosworth, Hutchinson CC; Stephen W. Brady, Wichita State University; Kevin Charlwood, Washburn University; Uwe Conrad, Cowley College; Sarah Cook, Washburn University; Anita Curtis, Dodge City CC; Luke Dowell, Seward County CC; Brenda Edmonds, Johnson County CC; Tim Flood, Pittsburg State University; Larry Friesen, Butler County CC; Jeff Frost; Johnson County CC; Donna Gorton, Butler County CC, Ralph Gouvion, Labette CC; Brad Griffith, Colby CC; Jo Harrington, Barton County CC; Margret Hathaway, KCKCC; Brian Howe, Barton County; Jeff Hurn, Highland CC; Lauren Jacobs, Highland CC; Doug Joseph, Allen County CC; Gayathri Kambhampati, Cloud County CC; D.W. Klein, KCKCC; Mark Krehbiel, Garden City CC; John Maginnis, Kansas State University; Mike Martin, Johnson County CC; Wayne Martin, KCKCC; Kim Miller, Labette CC; Hasan Naima, KCKCC; Greg Nichols, Cowley College; John Olson, Colby CC; Jack Porter, University of Kansas; Sherri Rankin, Hutchinson CC; Kathy Reid; Kansas State University; Tom Roberts, Kansas State University; Ron Sandstrom, Fort Hays State University; Detsinh Sayaloune, Highland CC; Larry Scott, Emporia State University; Judy Stubblefield, Garden City CC; Carol Tracy, Highland CC; Pam Turner, Hutchinson CC; DeeAnn VanLuyck, Fort Scott CC; German Vargas, Wichita State University; Timothy Warkentin, Cloud County CC; Mark Whisler, Cloud County CC; Ryan Willis, Coffeyville CC; Steven J. Wilson, Johnson County CC; Joe Yanik, Emporia State University

Facilitator: Jack Porter

I. Meeting notes: Please report the key points of the discussion.

> a. *Report and Action on minutes of previous meeting(if any)*
>
> *None*

> b. *Course/Core Outcomes Discussion*
>
> *The current course under discussion is a first semester Calculus course for scientists and engineers. Discussion began in last year's meeting, but was continued to this year's meeting, with a list of competencies under consideration. These were reviewed, along with a new syllabus for the Johnson County course.*
>
> *Johnson County representatives said that the new syllabus was necessary because many of their science and engineering students transfer to KU, and so it was necessary to have a course that would readily transfer there. This new syllabus required much discussion amongst the faculty at Johnson County.*

There was some discussion as to whether a course with these competencies would transfer to the other Regents universities. Representatives from these universities mostly indicated that it would; the proposed set of competencies is more than any other university or community college does at this point in time. No representative said that it would not transfer.

A comment was made that students should be told that these competencies did not apply to all Regents universities.

Doubt was expressed by more than one person that we can come to an agreement on a set of competencies for this course. Another comment was made that it's not fair for students to not have some kind of agreement.

In the end, no vote was taken on the proposed list of competencies. Discussion was tabled until next fall.

      c. *Items discussed but undecided*
      The first half of the meeting was taken up by discussion of concurrent enrollment classes and various problems with these classes. There is general dissatisfaction with concurrent classes with regards to grade inflation and the level of rigor, as well as other issues.
      d. *Decision regarding future need for meetings*
The group will meet again next fall.

II.   List of group members and their emails

Bosworth	David	Hutchinson CC	bosworthd@hutchcc.edu
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