Kansas Core Outcomes Group Annual Meeting Report
September 27, 2013

Discipline: Mathematics
Kansas Regents System Number (KRSN) and Title:
Chair/Facilitator(s): Paul Walcher
Transfer and Articulation Council Liaison: Karla Wiscombe (William Ivy could not attend)

Courses from Kansas Public Institutions for which Core Outcomes apply (equivalent courses across the system) and Faculty Representatives:

Institution	Course Number and Title	Cr. Hrs.	Institution Appointed Voting Faculty Member	Present Y or N	Vote Y or N
Allen County CC	MAT 115: Elementary Statistics	3	Doug Joseph	Y	Y
Barton County CC	STAT 1829: Elements of Statistics	3	Joseph Harrington	Y	Y
Butler CC	MA 210: Applied Statistics	3	Donna Gorton	Y	Y
Cloud County CC	MA 114: Elementary Statistics	3	Mark Whisler	Y	Y
Coffeyville CC	MATH 250: Elementary Statistics	3	Kendall Payne	Y	Y
Colby CC	MA 205: Statistics	3	John Olson	Y	Y
Cowley County CC	MTH 4423: Elementary Statistics	3	Uwe Conrad	Y	Y
Dodge City CC	MATH 230: Elementary Statistics	3	Dylan Faullin	Y	Y
Flint Hills TC				N	Y
Fort Scott CC	MAT 2253: Elementary Statistics	3	DeAnn VanLuyck	Y	Y
Garden City CC	MATH 110: Fundamentals of Stat.	3		N	Y
Highland CC	MAT 203: Basic Statistics	3	Lauren Jacobs	Y	Y
Hutchinson CC	MA 108: Elements of Statistics	3	Pam Turner	Y	Y
Independence CC	MAT 1103: Elementary Statistics	3		N	Y
Johnson County CC	MATH 181: Statistics	3	Steven Wilson	Y	Y
Kansas City KCC	MATH 115: Statistics	3		N	Y
Labette CC	MATH 120: Elementary Statistics	3	Alan Pommier	Y	Y
Manhattan Area TC	MAT 145: Elementary Statistics	3	Janelle Phillips	Y	Y
Neosho County CC	MATH 143: Elementary Statistics	3	Paul Walcher	Y	Y
North Central KTC			Mark Pahls	Y	Y
Northwest KTC	MATH 180: Statistics	3		N	Y
Pratt CC	MTH 181 Statistics	3	Roy Clark	Y	Y
Salina Area TC				N	Y
Seward County CC	MA 2103 Elementary Statistics	3	Luke Dowell	Y	Y
Wichita Area TC	MTH 120: Elementary Statistics	3		N	Y
			TOTALS		
Emporia St. U.	MA 120: Intro. to Statistics	3	Larry Scott	Y	Y
Fort Hays St. U.	Math 250: Elements of Statistics	3	Mohammad Riazi	Y	Y
Kansas St. U.	STAT 325: Intro. to Statistics	3	John Maginnis	Y	Y
Pittsburg St. U.			Tim Flood	Y	N
U. Of Kansas	MATH 365 Elementary Statistics	3	Margaret Bayer	Y	Y
Washburn U.				N	Y
Wichita St. U.	Intro to Statistics	3		Y	N
			TOTALS		

Failure to participate in the articulation of course outcomes will be taken as agreement (recorded as a yes vote) with any actions approved at the KCOG meeting.

Core Outcomes: 4-6 specific, measurable learning outcomes expected of every student that completes the course
The prerequisite for this course is College Algebra, an equivalent, or a higher course.

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

Basic Descriptive Statistics: Organizing and describing data
- Define and distinguish between categorical (qualitative) and numerical (quantitative) data.
- Distinguish between data from an observational study and data from a designed experiment.
- Organize data in frequency tables and contingency tables.
- For a given set of data, construct appropriate graphical displays of qualitative and quantitative data
- Describe the general shape of data, skewed left, skewed right, normal or other symmetric.
- Calculate the measures of central tendency including mean and median.
- Calculate the measures of dispersion including range, standard deviation, variance, and interquartile range; explain the meaning of dispersion as it relates to a problem.
- Use a statistical package on a graphics calculator or a computer to enter data and analyze results.
- Measure the position of a data point by computing a percentile

Introduction to Probability: Finding the theoretical probability of an event

- Use probability notation including the "or" condition and the "and" condition.
- Determine whether or not two events are mutually exclusive.
- Determine whether or not two events are independent.
- Calculate the probability of compound events.
- Calculate conditional probabilities; explain the meaning of conditional probabilities.

Random Variables: Determining probabilities of a random variable

- Distinguish between discrete and continuous random variables.
- Find and interpret the mean and the standard deviation of a probability distribution.
- Recognize Bernoulli populations.
- Use the normal distribution to solve percent problems for normally distributed populations.
- Use the normal distribution to solve probability problems for normally distributed random variables.

Random Sampling and Sampling Theory: Generating distributions for sample means

- Calculate the mean for a distribution of sample means.
- Calculate the standard deviation for a distribution of sample means.
- Assess normality of a set of data.
- Demonstrate the use of the Central Limit Theorem and explain its importance.

Estimating the Mean

- Construct confidence intervals for a population mean and a difference of two population means and interpret them in context.
- Construct confidence intervals for a population proportion and a difference of two population proportions and interpret them in context.

Using Hypothesis Tests

- Perform hypothesis tests for a population mean and a difference of two population means and interpret results.
- Perform a hypothesis test for a population proportion and a difference of two population proportions and interpret results.
- Explain Type I error, Type II error, p-value, significance level and power of test in context.
- Perform Chi-squared tests.

Linear Regression: Making predictions with linear data

- Create a scatter plot and calculate a correlation coefficient for bivariate data.
- Construct a linear regression equation, interpret the results, and test significance of slope.
- Use a linear regression equation to make predictions about data.
- Calculate the coefficient of determination for a linear regression equation and interpret results.

Recommended Course for articulation at 2014 Kansas Core Outcomes Project Meeting:
Trigonometry
Math for Liberal Arts will also be discusseed.

Chair for 2014:
Paul Walcher

Comments: