COURSE OUTLINE : MATH 30CD
D Credit – Degree Applicable
COURSE ID 010423
Created: FEBRUARY 2019
Revision: MARCH 2021

COURSE DISCIPLINE : MATH

COURSE NUMBER : 30CD

COURSE TITLE (FULL) : Intermediate Algebra and Pre-Statistics

COURSE TITLE (SHORT) : Inter Alg & Pre-Stats

ACADEMIC SENATE DISCIPLINE: Mathematics

CATALOG DESCRIPTION

MATH 30CD is the second part of a three-part Intermediate Algebra course for Statistics and Liberal Arts Math (SLAM). MATH 30AB, MATH 30CD, and MATH 30E are collectively equivalent to MATH 30, Intermediate Algebra and Pre-Statistics. The MATH 30AB, MATH 30CD, and MATH 30E sequence is a three-part course leading to transfer-level SLAM courses MATH 136, MATH 133, MATH 135 and MATH 138. Topics include radicals, functions, exponential and logarithmic functions, modeling bivariate data with exponential and logarithmic functions.

CATALOG NOTES

Note: This course may not be taken for credit by students who have completed MATH 30, 30+, 130, or 131. A maximum of 6 units will be granted for the MATH 30AB, 30CD, and 30E sequence and any of the following courses: MATH 146, 246A, 246B, 30, or 30+ OR a maximum of 7 units will be granted for the MATH 30AB, 30CD, and 30E sequence and any of the following courses: MATH 101, 119, 120, 219A, 219B, 219C, 220A, 220B, 90, or 90+.

Total Lecture Units:1.50

Total Laboratory Units: 0.50

Total Course Units: 2.00

Total Lecture Hours:27.00

Total Laboratory Hours: 27.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 54.00

Total Out-of-Class Hours: 54.00

Prerequisite: Placement is based on the satisfactory completion of MATH 30AB.

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	MATH	30AB	Intermediate Algebra and Pre-Statistics	Solve absolute value equations and inequalities;	Yes
2	MATH	30AB	Intermediate Algebra and Pre-Statistics	solve linear equations and inequalities;	Yes
3	MATH	30AB	Intermediate Algebra and Pre-Statistics	find the equation of a line and interpret the slope and intercept;	Yes
4	MATH	30AB	Intermediate Algebra and Pre-Statistics	solve applied problems;	Yes
5	MATH	30AB	Intermediate Algebra and Pre-Statistics	graph linear functions;	Yes
6	MATH	30AB	Intermediate Algebra and Pre-Statistics	compute basic statistics for a variable, including mean, median, mode, quartiles, range, variance, and standard deviation;	Yes
7	MATH	30AB	Intermediate Algebra and Pre-Statistics	describe the distribution of a quantitative variable in terms of its shape, center and spread, using graphical techniques;	Yes
8	MATH	30AB	Intermediate Algebra and Pre-Statistics	graph and interpret bivariate data through the use of scatterplots, regression, and correlation.	Yes

EXIT STANDARDS

1 Solve equations with one radical;
2 solve applied problems;
3 solve equations with one logarithmic or exponential expression;
4 graph exponential and logarithmic functions.

STUDENT LEARNING OUTCOMES

1 identify different types of equations and inequalities, select the appropriate strategy to solve the equation or inequality, and check the reasonableness of the solution;
2 formulate and analyze mathematical models for a variety of real-world phenomenon and use mathematical and technological tools to determine the veracity of the model.

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COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Exponents and radical equations • Exponents and scientific notation • Solving equations with one radical	4	4	8
2	Exponential and logarithmic functions • Exponential functions • Logarithmic functions • Common and natural logarithms	8	8	16
3	Applications of exponential and logarithmic functions • Simple vs. compound interest • Annuities • Applications (Investing: long term vs. short term, Borrowing: short vs. long term; cost and benefits, Credit cards, Loans: payoff and monthly payments, Student loans, Mortgages, Richter Scale)	8	8	16
4	Curved quantitative relationships • Exponential relationships with technology • Logarithmic relationships with technology	4	4	8
5	Affective Domain and Metacognition • Mindset (growth, resilience, hardiness, and grit) • Reading and cognitive techniques	3	3	6
				54

OUT OF CLASS ASSIGNMENTS

1 homework (e.g. problems sets related to course content);
2 project(s) using datasets and technology culminating in a written report (e.g. analyze data provided involving price and quantity of soda and construct a scatter plot and linear regression model using Excel).

METHODS OF EVALUATION

1 quizzes;
2 one examination is required;
3 a comprehensive final examination is required.

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METHODS OF INSTRUCTION

- [x] Lecture
- [ ] Laboratory
- [ ] Studio
- [x] Discussion
- [x] Multimedia
- [x] Tutorial
- [x] Independent Study
- [x] Collaboratory Learning
- [x] Demonstration
- [ ] Field Activities (Trips)
- [x] Guest Speakers
- [x] Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Intermediate Algebra and Pre-Statistics, Custom Published for GCC	Required	Pearson	1	Print	Lehmann, Jay	1323942416	2019