NMSU Grants Campus

Math Appreciation, MATH 210

Fall 2011

Instructor: Crystal Rust

Contact Information:

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Office Hours: 12:05 – 1:05 & 5:05 – 6:15 Mon, Wed; 10 – 1:15 Tues; 6:00 – 6:35 pm Thur. or by appointment.

Class Meeting: MW 3:50 – 5:05 p.m.

Course Catalog Description: Mathematics and its role in the development and maintenance of Civilization.

Credit Hours: Math 210 is a 3 credit hour course.

Pre/Co-requisites: Credit for ENGL 111G or eligibility to enroll in ENGL 111H, high school algebra and an adequate score on the Mathematics Placement Examination (or a C or better in CCDM 114N).

Required Textbook and Materials to bring to each class meeting:

1. Textbook: The Mathematical Palette, by Ronald Staszkow & Robert Bradshaw published by Thomson. The ISBN for the Textbook is ISBN: 0-534-40365-4.
2. Notes Binder: A three ring binder to neatly keep class notes, returned work, frequency logs, and frequency questions. You will **not** be permitted to use this notebook on exams.
3. Pencils, erasers, and loose leaf notebook paper.
4. Calculators are permitted!

Course Overview/Content:

This course meets the competencies recommended by the New Mexico Articulation Task force. The content, pedagogy, and supporting materials for the course include projects and activities that engage students and deepen their understanding. This includes learning to recognize various

patterns common in data, and tools commonly used to display, summarize, compare, interpret and apply data, as employed by society to solve its problems.

Student Learning Outcomes:

Upon successful completion of this course, each student should be able to do the following:

1. Display, analyze, and interpret data.
2. Demonstrate knowledge of problem solving strategies.
3. Construct valid mathematical explanations.
4. Display an understanding of the development of mathematics.
5. Demonstrate an appreciation for the extent, application, and beauty of mathematics.

Assessment of Student Performance—Grading and Evaluation:

1. Assignments: There will be five assignments worth 10 points each and a final project worth 50 points. Thus there is a total of 100 points.
2. Final Project: You are to do a final project for this class and it will count 50% of your total grade. You may write a paper, do a Power Point presentation, make a model, display, or any other creative means to display your research. I want you to decide which section/sections we cover will most impact you and your future career goals. Your project should include a brief history of the section you are doing, what mathematician or other person influenced the development of the field the most, and how that particular type of math is used in your future career interest. **You must do a final project.**

Grade Scale: 90 – 100 = A; 80 – 89 = B; 70 – 79 = C; 60 - 69 = D; 0 - 59 = F

Classroom supports that are not part of your grade, but help you to succeed:

1. Classroom Website: You may get copies of the class notes and student notes at **www.mathdoctor1999.com**.
2. Student Notes: will be posted on the classroom website before each class. AT THE MINIMUM, you should read over and work through examples in the student notes BEFORE each class.

College Provided Tutoring Services: If you cannot come to my office for help, you can get additional help on campus in the Student Success Center (room 125) and the Math Lab (room 111). Tutors are available and can assist you when you find yourself needing help.

Classroom Conduct Policy: Students must conform to the NMSU Grants Student Code of Conduct as published. It is the faculty's responsibility to shape and maintain a positive learning environment in the classroom and labs as well as on campus in general. Students are expected to contribute to a positive learning environment as determined by the faculty member responsible for the course. Student conduct that is determined to be detrimental to creating and maintaining a positive learning environment, for example rude, disruptive or uncooperative behavior, and/or

distractive clothing, can lead to dismissal of the student from the class session or course. While complaints from other students in the class are one measure of disruption, the faculty member has the responsibility and authority to establish a positive learning environment. Please, no texting or phone calls during class. If you must answer a text or call, quietly leave the room. Also, during exams, cell phones must be off. If you have an emergency situation, let me know.

Statement Regarding Academic Misconduct: Any student found guilty of academic misconduct shall be subject to disciplinary action. Academic misconduct includes, but is not limited to, the following actions: CHEATING; PLAGIARISM; UNAUTHORIZED POSSESSION OF EXAMINATIONS, RESERVE LIBRARY MATERIALS OR LABORATORY MATERIALS; UNAUTHORIZED CHANGING OF GRADES ON AN EXAMINATION, INSTRUCTOR'S GRADE BOOK OR GRADE REPORT; NONDIS-CLOSURE OR MISREPRESENTATION IN FILLING OUT APPLICATIONS OR OTHER COLLEGE RECORDS. The following disciplinary actions and sanctions may be imposed for any of the above infractions of regulations: Disciplinary Probation, Disciplinary Suspension, Dismissal, Expulsion.

Attendance Policy: Attendance is important for your academic progress. If you do not attend class, you cannot earn Bonus Bucks which are the only form of extra credit in the class. If a student misses three consecutive classes or five cumulative absences, the instructor may begin procedures for an Administrative Withdrawal. Please contact me if you are to be absent for an extended amount of time. If you are absent, it is your responsibility to find out what you have missed. You can find the notes on the classroom website.

Americans with Disabilities Act (ADA): If you have, or think you may have, a disability that interferes with your performance as a student in this class, you are encouraged for academic reasons to discuss this on a confidential basis with your instructor, and/or The Americans with Disabilities Act (ADA) Coordinator, in the Main Office, or at 287-7981. If you have a condition that may affect your ability to exit from the premises in case of an emergency, you are urged, for safety reasons, to notify the ADA coordinator.

Statement of Syllabus Modification: The instructor may modify this syllabus to meet the needs of a particular class. How fast we move will depend on several factors, so specific dates are not included. You should look at the class notes that will be posted on the class website by date if you are absent to see what sections we covered while you were gone.

Topics to be covered

Text Section	Section Title
Chapter 1	**Numbers – Old and New**
1.3	Numeration Systems with other Bases
1.4	The Numbers of Technology
Chapter 2	**Logical thinking**

2.1	Logic, Statements and Definitions
2.2	Inductive and Deductive Reasoning
2.3	Symbolic Logic and Truth Tables
~~**Quiz 1**~~	~~**Chapter 2 Test omitting numbers 9,10, 11, 12**~~
Chapter 3	**Sets and Counting**
3.1	Sets: Finite and Infinite
3.2	Set Operations and Venn Diagrams
3.3	Applications of Sets
3.4	Introduction to Counting
~~**Quiz 2**~~	~~**Chapter 3 and Chapter 3 Test**~~
Chapter 4	**Probability**
4.1	Intuitive Concepts of Probability
4.2	Calculating Probabilities
4.3	Probability and Odds
4.4	Probability of Compound Events
4.5	Conditional Probability
4.6	Expected Value
~~**Quiz 3**~~	~~**Chapter 4 and Chapter 4 Test**~~
Chapter 5	**Statistics and the Consumer**
5.1	Arranging Information
5.2	Measures of Central Tendency
5.3	Measures of Dispersion
5.4	The normal distribution
5.5	Polls and Margin of Error
5.6	Regression and Forecasting
~~**Quiz 4**~~	~~**Chapter 5 and Chapter 5 Test**~~
Chapter 6	**Modeling with Algebra**
6.1	Linear Models
6.2	Quadratic Models
6.3	Exponential Models
6.4	Logarithmic Models
~~**Quiz 5**~~	~~**Chapter 6 and Chapter 6 Test**~~
Chapter 7	**Geometry and Art**
7.1	Euclidean and Non-Euclidean Geometry
7.2	Perspective
7.3	Golden Ratios and Rectangles
7.4	Polygons and Stars
7.5	Tessellations
7.6	Fractals
~~**Quiz 6**~~	~~**Chapter 7 and Chapter 7 Test**~~
Chapter 9	**Finance Matters**
9.1	Percent
9.2	Simple interest
9.3	Compound Interest
9.4	Annuities

9.5	Loans
~~**Quiz 7**~~	~~**Chapter 9 and Chapter 9 Test**~~
Chapter 8*	**Trigonometry**
8.1	Right Triangles, Sine, Cosine, and Tangent
8.2	Solving right Triangles
8.3	Right Triangle Applications
Chapter 10*	**Math from Other Vistas**
10.1	Differential Calculus
10.2	Integral Calculus
10.3	The Pascal-Yang Hui Triangle
Final Project Due	

*these sections will not be specifically quizzed over but may be included as a chosen math area for your final project.

Important Dates to Remember:

- ✓ Last Day to drop a class w/o a "W" September 2, 2011
- ✓ Labor Day Holiday – No Class September 5, 2011
- ✓ Last Day to drop a course with a "W" October 11, 2011
- ✓ Last Day to Withdraw from the University November 12, 2011
- ✓ Fall Break and Thanksgiving Holiday November 21 - 26, 2011
- ✓ Thanksgiving Holiday-Offices Closed November 24-26, 2011

Last Day of Fall Classes December 9, 2011