THE UNIVERSITY OF TEXAS AT EL PASO
COLLEGE OF SCIENCE
DEPARTMENT OF MATHEMATICAL SCIENCES

Course #: Math 5370/ 21911
Course Title: Seminar – Algebra and Number Theory (MAT)
Credit Hrs: 3
Term: Spring 2014
Course Meetings & Location: TR 5:00 pm - 6:20 pm in BH 125
Prerequisite Courses: 
Instructor: Dr. Emil Schwab
Office Location: BH 201
Contact Info: Phone # 747-6758
E-mail address: eschwab@utep.edu

Office Hrs: TR: 3:00 – 4:30 pm
Textbook(s), Materials: A textbook is not required.

Course Objectives: Students are expected to build a solid understanding of some abstract concepts, principles, theorems and proofs, to develop the ability to think abstractly, and to be able to elaborate rigorous proofs

Course Contents: 

1) Groups and Subgroups. The additive group of integers and its subgroups.
2) Rings, Subrings and Ideals. The ring of integers and its ideals. Total Order and Division Algorithm.
3) Divisibility in Integral Domains. g.c.d. and l.c.m. Prime Elements and Irreducible Elements.
4) Congruences on groups and rings. Congruence modulo n. Fermat’s Theorem, Wilson’s Theorems and the Chinese Remainder Theorem.
5) The Ring of Arithmetic Functions. The Möbius Inversion Formula. Euler’s Theorem.

Exams and Assignments: There will be two exams. Homework will be assign regularly. The homework will not be collected, but will be discussed in class. The exams will include problems from homework.

Grading Policy: Each exam (worth of 100 points) represents 50% of the final grade. The final grade will be determined by the average of the exam’s scores respecting the following grading scale:
A 85-100;  B 70-84;  C 55-69;  D 40-54;  F below 40.

Extra credit will be given for class participation.
Make-up Policy: Make-ups/retests will be given only under extraordinary circumstances documented by the student and at the discretion of the instructor.

Attendance & Withdrawal: It is expected that everyone attend every class and arrive on time. It is the student’s responsibility to drop the course. After the drop deadline (Apr. 4), W may be given in special cases documented by the student and approved by the Dean's office.

Academic Integrity Policy: Students are required to follow UTEP policy (Academic Dishonesty at UTEP) available at http://academics.utep.edu/Default.aspx?tabid=23785

Disability Statement: If a student has a disability and needs an accommodation, he/she should contact the Disabled Student Services Office (DSSO) at 747-5148 or at <dss@utep.edu> or go to Room 106 Union East Building. The student is responsible for presenting to the instructor any DSS accommodation letters and instructions.

Military Statement: If you are a military student with the potential of being called to military service and/or training during the course of the semester, you are encouraged to contact the instructor as soon as possible.