MATH 4713 INFORMATION
Section 001/01G, MWF 12:30 PM, CLB 203

Instructor: David Wright, MS 527, 744-5775, FAX: 744-8275,
    Email: `wrightd@math.okstate.edu`
    Online Classroom (D2L): `oc.okstate.edu` (Main location of class resources and grades)
    External website: `http://klein.math.okstate.edu/~wrightd/4713`

Office hours: MWRF 1:30–2:30 PM at MS 527 and by appointment. Please feel free to drop by or contact me to see if I am available at any time.

Text: *Number Theory: A Lively Introduction with Proofs, Applications and Stories*, by James E. Pommersheim, Tim K. Marks, and Erica L. Flapan.

Prerequisites: At least MATH 3013: Linear Algebra, and preferably also MATH 3613: Introduction to Modern Algebra, especially if you need more experience in formal mathematical logic and reasoning.

Course objectives: Number theory, the science of whole numbers, is the most ancient and fundamental subject within mathematics. It simultaneously provides a source of fascination for very young children and a wealth of challenges for the best pure mathematicians of each generation, and in the digital age has proved to be a cornerstone of the mathematics of information analysis and security. We shall try to do justice to all these aspects of the subject.

Syllabus: See the calendar for a tentative plan of sections covered in the textbook.

EXAMINATIONS: Two one-hour exams will be given in class, on Friday, *Sept. 26* and Wednesday, *Nov. 5*. A final exam is also scheduled on *Monday, Dec. 8, at 10:00–11:50 AM* in our classroom. There will be no scheduled makeup exams; you should give me at least a week's prior notice of any absolutely compelling reason why you might need to reschedule an exam.

Homework: All students will be expected to complete and turn in written solutions to all the regularly assigned homework. **Rules:** Write neatly; staple pages together; HW should be turned in at the beginning of the class at which it is due. Some problems may not be graded; it's better to turn in whatever homework you have done than nothing at all. Generally, all the reasoning necessary to justify solutions must be written down in clear brief phrases.

Group Projects: Smaller projects that will usually involve some computation will be assigned to groups of three or four students. I will provide instructions and computational resources later.

Quizzes: A few 15-minute quizzes will be given in class during the term. They will be announced in advance.

Grading: The one-hour exams will be worth 150 points each, and the final exam will be worth 250 points. The quizzes, homework and projects will be worth a maximum of 150 points, for a grand total of 700 points for all coursework. There will be something like 200 points available on quizzes, homework and projects, allowing students to make up missed work.

Thus, generally, no late homework will be accepted, and no missed quizzes may be made up. Students who achieve at least 90%, 80%, 70%, 60%, respectively, of the total score will receive at least an A, B, C, D, respectively. Depending on the median scores and the instructor's judgment, these cutoffs may be lowered.

STANDARD OPERATING PROCEDURE: All students must complete a minimum of six hours of work each week outside attending lectures. This work is to consist of reading in detail all sections of the book covered in class and performing all assigned homework problems and enough additional problems to make sure that you understand the material. It is very important that you contribute this six hours of work every week. If you cannot solve a problem completely, give as much of a partial solution as you can. Try to write down the exact point in the solution that you cannot understand. Try to record all theorems and examples from the class or the text that are possibly relevant to the problem. It is far better to learn this process of self-analysis than to depend on the collaboration of others. On all examinations and assignments, all steps necessary to prove that your solution is true must be given.

Academic Dishonesty: It is a cornerstone of academic integrity that written work submitted under your own name should be prepared entirely by yourself. Informal discussion between students is permitted. You are also encouraged to seek help on the homework from myself during office hours. However, academic misconduct includes organized collaboration between students on homework assignments that involve, say, jointly writing solutions on the blackboard and then copying down the alleged solutions on each individual's paper. Also, examination of another student's individual written work before an assignment has been collected and graded is strictly forbidden.

Attendance Policy: Attendance of lectures is mandatory in the sense that you are responsible for all announcements of changes in schedule made during class, as well as all material covered during lectures. Roll will periodically be taken, but not every class. If you're missing a lot of classes, you can expect to be contacted.

Disability: If you feel that you have a disability and need special accommodations to pursue the course, the instructor and the Office of Student Disability Services (315 Student Union) will work with you to ensure that you have a fair opportunity to complete this class. Please advise the instructor of such disability before the end of the second week of the term.