MATH 132:01 – Honors Applications of Mathematics Fall 2022
Introduction to Cryptography

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Course Homepage: http://www.radford.edu/npsigmon/courses/cryptography/crypthome132.html
Office Hrs: 2:00 p.m. – 3:00 p.m. Tuesday, Thursday (Other times by appointment)
Office Hrs Zoom Link: https://learn.radford.edu/d2l/home/207863

Textbook: Cryptology Classical and Modern, 2nd Edition, Klima and Sigmon. We will cover sections from Chapters 1, 2, 3, 6, 7, 9, and 11

Class Meeting Times: Tuesday, Thursday 3:30 a.m. - 4:45 p.m. in Peters Whitt 214. This course counts 3 hours credit.

Test Dates: To be announced (There will be two major tests and a Final Exam).
Final Exam Date: Thursday, December 8th at 12:30 p.m. in Whitt 214.

Grading Policy: 46 % 2 Major Tests
24 % Final Exam
20 % Hand written Homework, Computer Assignments
10 % Term Paper and Class Participation*

* The term paper will be a short paper (4 pages) or possible project (a computer project is an example) describing a person or cryptographic method pertaining to cryptology. I will give you a handout later this semester showing possible topics. The paper should be typewritten (using Microsoft Word, for example) using 1.5 line spacing and should have good grammatical structure with references clearly stated. Do not plagiarize! The term paper will be due on Thursday November 17th.

* Also, you will be required to participate in Desire2Learn discussion groups when technologically feasible. This discussion will include you communicating with your classmates in groups in a secret manner using some of the cryptographic techniques we study in class. You will have the opportunity to to break messages sent by others.

Grade Scale:

90-100	A
87-89	B+
80-86	B
77-79	C+
70-76	C
67-69	D+
60-66	D
< 60	F

A "**–**" grade will be awarded at the discretion of the instructor

Prerequisite: High School Algebra, Honors Academy membership or permission of instructor.

"Makeup" Test Policy: Approval for making up a missed test should be given prior to the scheduled test. The makeup test must be taken within one week following the scheduled test. Documentation is required for all make-ups. Except for extraordinary circumstances, approval for a makeup test will not be granted if the scheduled test has already been given.

Attendance Policy: Attendance is a requirement in this class. If you miss a class, you are responsible for making up any missed work. Attendance will be taken each class period. Attendance means **RESPONSIBILITY** – I look much more favorably on students who have good attendance habits.

Late Homework Policy: Late hand written homework will be accepted but only limited credit will be given. I consider late homework to be homework turned in later than 11:00 p.m. of the day the assignment is due. The maximum number of points a student can receive for a late homework is ten points lower than the minimum grade of all students who have turned in the assignment on time. For example, if an assigned homework is worth 80 points and the lowest score of the on-time assignments is 60/80, the maximum grade a student can receive for the assignment is 50/80. No exceptions to this policy will be granted except for extreme circumstances that require official university documentation or a predetermined arrangement between the student and myself that is done prior to the assignment due date. Late assignments must be turned in within one class day of the assignment due date to obtain any credit.

Laptop/Cell Phone/Electronic Device Policy: No cell phones, computers, or other electronic devices are to be used in this class when these devices are not being used in a way that is conducive for learning what is being taught in class during a particular day or time. Determining what is conducive will be left up to the instructor's discretion. The instructor retains the right to ask a student to leave class if they exhibit this or any other behavior that is a distraction to learning for other students in the class.

Catalog Course Description: An introduction to the application of mathematical ideas for Honors students. Topics vary. This course can be taken more than once with different topics. This course has been approved for credit in the Mathematical Sciences of the Core Curriculum.

Student Goals and Objectives of the Course: Students should gain a deeper understanding and appreciation for mathematics and its applications, and some skill in addressing the particular types of quantitative issues included in the course. Math 132 concentrates on applications. Applications likely to be treated—cryptology is an example—are those which are interesting to many people, can be profitably approached using only elementary mathematics, and reward careful study with deepened understanding and appreciation of the power and beauty of mathematics.

Students will be able to use the tools of mathematics and quantitative reasoning to conceptualize and solve problems. Students will be able to:

a. identify and interpret relationships among numeric, symbolic, and graphical information
b. generate mathematical models using numeric, symbolic, and graphical information for use in real-world applications
c. solve problems using numeric, symbolic, and graphical information

Disability Policy: Students seeking academic accommodations under the Americans with Disabilities Act must register with the Center for Accessibility Services (CAS) to determine eligibility. Students qualified for academic accommodations will receive accommodation letters and should meet with each course professor during office hours, to review and discuss accommodations. To begin the registration process, complete a Student Registration Form and submit documentation to PO Box 6902, Radford, Virginia 24142, or deliver to the Russell Hall, Room 325, by fax to 540-831-6525, or by email to cas@radford.edu (See documentation guidelines). For more information, visit the Center for Accessibility Services (CAS) website or call 540-831-6350.

Honor Code: By accepting admission to Radford University, each student makes a commitment to understand, support, and abide by the University Honor Code without compromise or exception. Violations of the University Honor Code include (but are not limited to): lying, stealing and unauthorized possession of property, cheating, multiple submission, and plagiarism. This class will be conducted in strict observation of the honor code. Refer to your Student Handbook for a complete copy of the University Honor Code.