Course Syllabus and Policy Requirement Statement

In order to access your course materials, you must agree to the following, by clicking the "Mark Reviewed" button below.

By checking the "Mark Reviewed" link below, you are indicating the following:

- You have read, understood, and will comply with the policies and procedures listed in the class syllabus, and that you have acquired the required textbook(s).
- You have read, understood, and will comply with class policies and procedures as specified in the online Student Handbook.
- You have read, understood, and will comply with computer and software requirements as specified with Browser Test.
- You have familiarized yourself with how to access course content in Blackboard using the Student Quick Reference Guide or CSS Student Orientation Course.

ISSA 4381 Introduction to Cryptology

Course Description/Overview

This course's ultimate objective is to introduce the student to the world of codes and ciphers. This course will rely on the long history of cryptology, from 1900 B.C.E. to the present day. This course introduces to students to several methods of both manual encryption and decryption and methods used today to ensure personal information is encrypted in both military and civilian applications.

Click this link for a printable version of the syllabus.

Course Required Textbooks:

The following textbook is required for this course. Other readings are assigned each week and are provided to you via a link in the course materials. Additionally, where possible, videos are utilized to enhance student learning.

- Provided Texts
  1. Basic Cryptanalysis Field Manual (FM 34-40-2)
  2. History of Encryption White Paper from SANS.org
  3. Military Cryptanalysis War Department Military Cryptanalysis

Course Objectives/Learning Outcomes
Learning Outcomes: Students have a right to know what instructors expect them to learn from a course of instruction and how their learning will be measured. This course establishes several learning outcomes that are measured subjectively. When you finish this course you should be able to:

1. Describe the history of cryptology.
2. Describe why cryptology was needed and is still in use today.
3. Discuss the use of military cryptology.
4. Describe the method of both encoding and decoding.

Objectives: As a result of completing this course, the student will be able to:

1. Demonstrate a knowledge of the definition of cryptology
2. Demonstrate a knowledge of the history of cryptology before the U.S. Civil War.
3. Demonstrate the ability to break a simple substitution code.
4. Demonstrate a working knowledge of encoding to include steganography.
5. Demonstrate a working knowledge of how to decode a message.
6. Demonstrate basic working knowledge of the operations of a 10 by 10 coded matrix.

Prerequisite Knowledge
While there are no prerequisites, the course materials, assignments, learning objectives, and expectations in this upper-level undergraduate course assume that the student has completed all lower-level general education coursework. Such coursework is necessary to develop research, writing, and critical thinking skills. Students who have not fulfilled all general education requirements will be at a great disadvantage and should strongly consider completing those requirements prior to registering for this course.

Online Course Access
The student will complete all required course activities through the University online course site. Upon registration, the student will be provided with the course access in the Blackboard Learning System. The student is advised to contact the school administrator if the registered courses are unavailable.

Required Technical Skills
Students are expected to possess technical skills in computer use and participate in weekly discussions.

Grading Policies/Assessment of Learning
This course is a colloquium (meaning a group discussion, from the Latin Colloqui – to talk together—to have a conversation). As such, weekly participation in the discussion threads is expected and forms part of the grade. Final grades are composed as follows:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percent of Grade</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in the Discussion Board</td>
<td>30%</td>
<td>Weekly: weeks 1 – 3 and 5-7. At the e initial post is due on Thursday befor</td>
</tr>
<tr>
<td>Assignment</td>
<td>Weight</td>
<td>Deadline</td>
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<tr>
<td>---------------------------</td>
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<td>------------------------------</td>
</tr>
<tr>
<td>at least 1200 words in length</td>
<td></td>
<td>Week 4</td>
</tr>
<tr>
<td>Final Project</td>
<td>40%</td>
<td>Thursday at 11:59 P.M. Central Standard Time.</td>
</tr>
<tr>
<td>at least 500 words in length</td>
<td></td>
<td></td>
</tr>
</tbody>
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(Essays)

- **Type**: Individual Essay
- **Format**: All Margins one-inch
- **Format**: Double Spaced, 12 point, Times New Roman font
- **Format**: Left-aligned or full-aligned text
- **Length**: At least 1200, for the Mid-term and 500 words. Deductions will occur for papers outside of this requirement
- **Due**: Sunday at the end of Lesson 4 before 2100 hrs. Central Time.
- **Please have a cover and reference page for this assignment that includes**: The Title (should include the main idea of the paper, not just a generic name such as "Research Paper" or "Paper 1"), Course name and Number, Instructor's Name, Your Name, and Date. Ensure your name appears in the name of the file, e.g., Smith_4381_Mid-term.doc for your mid-term essay and Smith_4381_Final for your final. The same naming convention applies for Lesson 6 and 7. Of course, use your own last name and not Smith, unless of course, your last name is Smith.
- **Resources**: You must cite a minimum of three different references in your essay, either from course materials or additional references (Wikipedia, blogs, and similar sources are NOT acceptable as sources).
  Any material to include, but not limited to, course readings and discussions. Adhere to bibliographic and citation guidelines. Use Grammarly; it's free and can save your grade.
- **Citations and Reference must use the proper format outlined in your Chicago Manual**:  
  - Like a block quote of more than four lines or 40 words.
  - Like all in-line parenthetical citations and reference list
    Double-check all citations and references, making sure that they are properly formatted and that anything that is cited in the text of your paper has a properly styled reference in the reference list and vice-versa.
- **Note**:  
  Avoid the use of "I", "we", "she", "he", “me”, “my” or "our" - opt instead to use terms such as "the author." Your research paper is about a topic and IS NOT ABOUT YOU or your unsupported opinion. Writing the paper in the "third person" shows that you have taken a step back from the material and are writing objectively.

Complete instructions and guidance on bibliographic and citation guidelines should adhere to the [Chicago](https://owl.purdue.edu/owl/research_and_citation/chicago_manual_17thEdition/cm0s_formatting)
Discussion Boards:

- **Primary** robust postings are due no later than 11:59 p.m. Central Time on Thursdays. **Responses** are due no later than 11:59 p.m. Central Time on Sundays.

There are no discussion questions for weeks with the mid-term (week four) and final essay-exam (week eight).

STUDENTS: The Student Discussion forum is designed for you to communicate with each other about whatever topics are assigned. While this is a free forum for discussion, note that your instructor and the ASU Faculty have access to this area.

- **Your professor will post a question in your assigned discussion thread.**
- **For the Discussion Threads each week, please provide your initial response of at least 150 words to the question.**
- **You should comment on at least two other students' postings – this is a minimum. A minimum effort will receive a minimum grade.**

DO NOT submit writing assignments in Word Perfect, Microsoft Works, or some e-mail format. They will not be accepted.

**Rubrics**
Discussion forums and writing assignments will be graded using a standardized rubric. It is recommended that you be familiar with these grading criteria and keep them in mind as you complete the writing assignments. There are two rubrics. Click the link to download the PDF document:

- Discussion Rubric
- Writing Assignment Rubric

**Participation & Communication**
In this class, **everyone** brings something to the table. Your ideas and thoughts do count, not only to me but the entire class. Feel free to ask questions either via e-mail or the discussion board. **Check the discussion board regularly.** Many student questions are applicable to the class as a whole, as are the responses. You may be surprised how many of your classmates have the same questions and concerns as you. I may simply post your particular question on the discussion board and allow your classmates to provide the answer through their own posts. Weekly discussion questions allow the student to demonstrate comprehension of lesson materials by preparing a response to a discussion question(s) posed by the instructor. The student response is assembled from knowledge gained through course materials and independent research. All students should follow the "General Rules for Discussion Questions Posts" below. Failing to
follow these rules and guidelines may result in score deductions. Formal grading of weekly
discussion questions will be completed using the Discussion Question Grading Rubric.

**General Rules for Discussion Question Posts:**
- All students MUST participate. Failing to participate may result in a failing grade for the
course.
- Students must post a response to the instructors' weekly question by **11:59 p.m. CST on
  Thursday of each week with an assigned discussion** and must respond to a minimum of
two other students' post by **11:59 p.m. CST on Sunday of each week.**
- Engage in an honest and forthright discussion, backing your position with proper references.
  There are no "correct" answers in the discussion area. Stating a position on an issue without
  providing a reference to source materials to back up your position is "simply your opinion."
  Such opinion statements are not appropriate in an academic setting.
- Avoid repeating the assigned readings in your own words. Use assigned readings as one of
  your resources, not as the single source for your post.
- Avoid plagiarism - paraphrasing a source document is plagiarism if you do not give the
  author due credit.

**Courtesy and Respect**

Courtesy and Respect are essential ingredients for this course. We respect each other’s opinions
and respect their point of view at all times while in our class sessions. The use of profanity &
harassment of any form is strictly prohibited (Zero Tolerance), as are those remarks concerning
one’s ethnicity, lifestyle, race (ethnicity), religion, etc., violations of these rules will result in
immediate dismissal from the course.

**Date and Time of Final Exam**

This is an online course. In lieu of a final exam, students submit the cyber vulnerability research
papers throughout the course. Students are concurrently asked to complete end of course surveys
and provide an end of program analysis.

**Office Hours and/or hours of outside-of-class contact**

This is an online course. The professor will provide contact information and availability times
for direct discussion in the Instructor Information section on Blackboard.

Angelo State University employs a letter grade system. Grades in this course are determined on a
percentage scale:

A = 90 – 100 %
B = 80 – 89 %
C = 70 – 79 %
D = 60 – 69 %
F = 59 % and below.

**Course Organization:**

**Lesson 1: Theory of Cryptology**
Including definitions and usage
Lesson 2: History of Cryptology
From B.C.E to the U.S Civil War

Lesson 3: Cryptanalyzing a Ciphertext
Example of how to break a coded text.

Lesson 4: Mid-term
Essay covering the history of cryptology from Lessons 2 and 3 (Note: your first paper is due midnight of Week 4).

Lesson 5: Encoding a Message
An encrypted message. Steganography will be introduced in this lesson.

Lesson 6: Decoding a Message
A readable format. Decoding of a steganography message from the previous message will be demonstrated.

Lesson 7: Practice of Encoding and Decoding messages
From previous weeks in preparation for the final decoding messages.

Lesson 8: Final
A rather lengthy message will be posted, in an image, and the final will be based on the students' ability to perform the action into a readable format. (Note: your final is due midnight Wednesday night of Week 8).

Communication

Office Hours/Contacting the Instructor
See the Instructor Information section for contact information.

University Policies

Academic Integrity
Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding and complying with the university Academic Honor Code and the ASU Student Handbook.

Accommodations for Disability
ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA), and subsequent legislation. Student Affairs is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it
is the student's responsibility to initiate such a request by emailing studentservices@angelo.edu, or by contacting:

Office of Student Affairs
University Center, Suite 112
325-942-2047 Office
325-942-2211 FAX

**Student absence for religious holidays**

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.