

**COURSE APPROVAL DOCUMENT**  
Southeast Missouri State University

Department: Computer Science \_\_\_\_\_

Course No. IS 299 \_\_\_\_\_

Title of Course: Security in Data Protocols \_\_\_\_\_

Date: Spring 2020 \_\_\_\_\_

Please check:  New  
 Revision

- I. Catalog Description (Credit Hours of Course) This course covers fundamental understanding of data protocols and algorithms, network defense, and security issues in protocols for current and emerging standards (3)
- II. Prerequisite(s): CS 155, IS 245  
Co-requisite(s):
- III. Purposes or Objectives of the Course (optional):
- IV. Course Learning Outcomes (Minimum of 3):
- A. Students will be able to describe protocols and algorithms for all layers of the protocols stack
  - B. Students will be able to identify protocol usage with different architecture and topologies
  - C. Students will be able to explain security policies within protocols for defending cyber assets
  - D. Students will be able to capture traffic and map protocol to traffic
  - E. Students will be able to describe the security issues and implication of advanced and novel protocols
- V. Names of Faculty Qualified to Teach the Proposed Course:
- A. Nick Rahimi
  - B. Vijay Anand

VI. Course Content or Outline (Indicate number of class hours per unit or section):

| Topic   | Hours |
|---|-------|
| A. Connected system and protocols                           | 3     |
| B. Algorithmic fundamental of protocols                     | 4     |
| C. Security of connection between both physical and logical | 4     |
| D. Protocol analysis  | 4     |
| E. Connection defense and monitoring                        | 5     |
| F. Security policies and protocol                           | 4     |
| G. Protocols in software define networks                    | 5     |
| H. Advance protocol security topics                         | 5     |
| I. Intro to cryptography                                    | 5     |
| J. Exams  | 3     |
| Total   | 45    |

Signature: \_\_\_\_\_

Date: 11/12/18

Signature: \_\_\_\_\_

Date: 11/13/18

Chair

Dean

**I. COURSE INFORMATION**

Course Number: IS 299

Course Title: Security in Data Protocols

Course Description: This course covers fundamental understanding of data protocols and algorithms, network defense, and security issues in protocols for current and emerging standards.

Prerequisites: CS 155, IS 245 with a minimum grade of C. Credit Hours: 3 hours.

**II. CLASS MEETING TIME AND PLACE**

Class meeting time: M, W 10- 11:15 am

Class meeting place: DH024

**III. INSTRUCTOR INFORMATION**

Instructor: Dr. Nick Rahimi

Contact Info:

Email: srahimi@semo.edu

Office Location: DH21F

Office Hours: M, W 11 am -12:30 pm or by appointment

**IV. COURSE-SPECIFIC REQUIRED MATERIALS**

Student Textbook:

Protocols for Secure Electronic Commerce, Third Edition, Mostafa Hashem Sherif. ISBN 9781138586055

**V. COURSE LEARNING OUTCOMES:**

- F. Students will be able to describe protocols and algorithms for all layers of the protocols stack
- G. Students will be able to identify protocol usage with different architecture and topologies
- H. Students will be able to explain security policies within protocols for defending cyber assets
- I. Students will be able to capture traffic and map protocol to traffic
- J. Students will be able to describe the security issues and implication of advanced and novel protocols

**VI. EXPECTATIONS OF STUDENTS**

- A. The students complete and submit all reading and lab assignments by their due dates, take all quizzes and examinations. Students should also anticipate spending a minimum of nine hours per week of work.

**VII. COURSE TENTATIVE CONTENT OR OUTLINE (Subject to Change):**

|   |   |
|---|---|
| A. Connected systems and protocols                          | 3 |
| B. Algorithmic fundamental of protocols                     | 4 |
| C. Security of connection between both physical and logical | 4 |
| D. Protocol analysis  | 4 |
| E. Connection defense and monitoring                        | 5 |
| F. Security policies and protocol                           | 4 |
| G. Protocols in software define networks                    | 5 |
| H. Advance protocol security topics                         | 5 |
| I. Intro to cryptography                                    | 5 |
| J. Exams  | 3 |

## VIII. GRADING SCALE AND POLICIES

| Activity    | Percentage |
|-------------|------------|
| Assignments | 40%        |
| Quizzes     | 10%        |
| Exams       | 30 %       |
| Final       | 20%        |

These percentages are tentative; there may be significant changes.

Assignments, Quizzes and Exams will be used to assess all Course Learning Outcomes. All work will be graded and returned within 2 weeks of submission. You may access all your grades via Moodle.

### Grading Scale:

The following is a general guide on grades:

A: 90% -- 100% B: 80% -- 89% C: 70% -- 79% F: 0% -- 69%

## IX. FINAL EXAM SCHEDULE

Final Exam Place: DH024

Final Exam Date: May 14, 2020

Final Exam Time: 10:00 am – 12:00am

## X. WHOM TO CONTACT WITH CONCERNS

Questions, comments or requests regarding this course or program should be taken to your instructor. Unanswered questions or unresolved issues involving this class may be directed to Dr. Sumanth Yenduri, Computer Science Department Chair at: (573-651-2368) (syenduri@semo.edu).

## XI. DROP POLICY

We hope that you will complete the course and benefit from it. If it is necessary for you to withdraw from the course during the semester, you must follow all official SEMO procedures for withdrawing. It is not sufficient to notify the instructor; you must withdraw officially. I would appreciate it if you would first consult with me. In some cases, we can agree on an arrangement that will allow you to complete the course with minor adjustments. For information regarding incomplete, withdrawal, etc. please visit the universities policies which can be found at:

<http://www.semo.edu/facultysenate/handbook/3c.html>

## XII. ATTENDANCE

It is important for students to attend class regularly. If you find it necessary to miss one or more classes, you are still responsible for all material covered in the class, and for submitting the homework on time. University policy regarding attendance may be found here: <http://www.semo.edu/bulletin/>.

**Online Participation.** You are expected to regularly review the content of the course website, read the assigned texts and participate in the discussions and other course activities each week.

## XIII. SUBMISSION and DEADLINES

If circumstances prevent the timely submission, please notify me by e-mail. Unless you make prior arrangements with me, any activity submitted after its assigned due date will be considered late. If I consider your excuse to be appropriate will give you extra time to submit your activity, but you will lose 20% credit. Assignments not submitted by the assigned due date will be assessed a grade of zero.

## XIV. INSTRUCTOR RESPONSE TO EMAILS

Email is the best way to contact me. I usually respond to emails within 24 hours during the week and 48 hours on weekends.

Please use your Southeast Email to contact me. I will not respond to any other email type and it will be ignored.

## XV. ACCESIBILITY STATEMENT

Any student who believes that they may need an academic accommodation based on the impact of a disability should contact the instructor to arrange an appointment and inform him/her before the beginning of classes to discuss their individual needs. Instructors rely on Disability Support Services for assistance in verifying the need

for academic accommodations and developing accommodation strategies. Students that have not already registered with Disability Support Services as a student with a disability will be encouraged to do so. Students are encouraged to visit the web site of the Learning Assistance and Disability Support Services website located at: <http://www.semo.edu/ds/> to learn more about their available policies and services. It is very important that if you think you may need to utilize this service you need to contact me within the first couple of weeks of the semester. After that, I cannot guarantee that I can help.

**XVI. ACADEMIC HONESTY**

No cheating in any form will be tolerated. Please be aware that anyone caught cheating or plagiarizing in this class will receive a “0” for the assignment/exam/activity.

Students are encouraged to visit the website for academic honesty for complete list of regulations. From Faculty Senate Bill 11-A-16 <http://www.semo.edu/facultysenate/handbook/5d.html>

**XVII. CIVILITY AND HARASSMENT**

A major determinant of a successful educational experience is a shared sense of respect among and between the students and their instructor. Some of the texts and issues we will discuss may cause disagreements among members of the class. Multiple viewpoints are an essential component of any college course, and disagreeing with someone is fine. However, rude, disrespectful, aggressive, offensive, harassing, or demeaning behavior — either face-to-face or in an online discussion—toward anyone in the class will not be tolerated; students are expected to abide by the Code of Student Conduct (<http://www.semo.edu/stuconduct/>). Should a student feel someone has acted inappropriately toward them in class, please speak with the instructor at once so the situation can be addressed. The instructor for the course reserves the right to ask a student to leave the classroom or the online discussion for any inappropriate behavior, and if the situation warrants, may call campus security to remove the offending student from class.