Syllabi   Course Syllabi

Spring 2-1-2018

CSCI 491.01: ST: Cyber Security

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CSCI 491 Syllabus

Course

Cybersecurity

Session

Spring 2018

Class Location and Time

1:00 PM – 1:50 PM Monday, Wednesday, Friday

Social Science 362

Instructor

William Knight

Office

Social Science 403

Office hours

3:00 to 4:00 PM Monday, Wednesday and Friday or by appointment

Email

William.Knight@umontana.edu

Learning Outcomes

Students will gain an understanding of the fundamental concepts, practical techniques and processes relevant to the security of computing systems and information technology environments. These include but are not limited to:

- Types of cyber attacks

- Cybersecurity frameworks

- Data protection and cryptography

- Systems administration

- Operating system, application and network security

- Penetration testing

- Monitoring, forensics and malware analysis

The course will take a practical, hands-on approach where teams of students will install, configure and maintain test systems, networks and applications that will be subjected to in-class cyberattacks and responses.

Applications such as nginx, php and mysql will be used, along with tools such as gdb, gpg, nmap, Wireshark, Nagios, Snort and Metasploit.

Multiple aspects of cybersecurity will be covered, including hardware and physical security, software, social engineering and security culture.

Students will have the opportunity to explore and investigate particular areas of interest in this constantly evolving field. Learning will be assessed through a combination of homework assignments, quizzes and a number of projects that will involve both individual and team-based efforts.

Grade Distribution
- Homework : 20%
- Quizzes : 30%
- Project 1 : 10%
- Project 2 : 10%
- Project 3 : 15%
- Research Project : 25%

Grading Scale
90 – 100..A
80 – 89..B
70 – 79..C
60 – 69..D
00 – 59..F

Academic Ethics

Ethics in academic activities are important at the University of Montana. We wish to graduate students who are responsible, hardworking, dependable, and who exhibit integrity and independence of thought.

While I do not mind if you discuss your assignments with your classmates, you are expected to design, edit and print your own assignments. You are expected to take tests without outside assistance. All work is expected to be your own.

<u>Examples:</u>

Splitting up the work in an individual assignment among several students is not acceptable.

Working together on the solution to an assigned problem, writing-it-up once, and then turning-in a copy, or a copy-and-pasted version, is not acceptable.

Overly similar work will be considered to be the result of copying. If you collaborate with another person for a graded assignment as in the example activities noted above, all parties involved will receive a zero for that assignment. If there are further assignments in which you have collaborated, the matter will be turned over to the Dean of Academic affairs for possible university imposed sanction. It is, therefore, imperative that if you need help on your assignments that you contact your instructor and NOT someone else.

The official University policies can be found in the <u>Student Conduct Code</u>.

Department Contact

Robyn Berg
SS 401
(406) 243-2866
robynb@cs.umt.edu

Disability Accommodations

The Department of Computer Science is committed to equal opportunity in education for all students, including those with documented physical disabilities or documented learning disabilities. University policy states that it is the responsibility of students with documented disabilities to contact instructor DURING THE FIRST WEEK OF THE SEMESTER to discuss appropriate accommodations to ensure equity in grading, classroom experiences, and outside assignments.

The instructor will meet with the student and the staff of the Disability Services for Students (DSS) to make accommodations.

Religious Observance

Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence.

Excused Absences for University Extracurricular Activities

Students participating in an officially sanctioned, scheduled University extracurricular activity will be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work.

Other Useful Information

- On-time attendance is expected for all schedule class periods and will count towards your overall class participation grade. Instructor will reduce credit for attendance if you are late to class.

- If you miss a class, you and you alone are responsible for the material covered. This includes handouts, schedule changes, and lecture notes. Every class period is important and may be on the final exam.

- Review the University policy on **incompletes** (http://catalog.umt.edu/academics/policies-procedures/). In particular, note that incompletes can only be assigned when the student has "been in attendance and doing passing work up to three weeks before the end of the semester." Incompletes will not be issued simply to prevent a failing grade.

- Late materials will only be accepted at the discretion of the Instructor and are subject to a late penalty.