ICSSP Seminar Syllabus

This course will be a 2 credit seminar for both undergraduate and graduate students admitted to the Illinois Cyber Security Scholar Program (ICSSP). In addition, this course will be open to all college of engineering students interested in topics of Information Assurance and trust.

The goal for this seminar is to engage students to the field of Cyber Security. In addition, the seminar is designed to facilitate students in becoming leaders in Information Assurance (IA) forum on campus.

The seminars will feature information assurance subject matter expert guest speakers from industry and government, community leaders, distinguished external researchers, faculty, and students discussing both the technical challenges and limitations of IA. The seminar will require students to do activities in the following three broad areas:

1. Technical aspects related to security
2. Participation in competitions
3. Organizing outreach events

**Seminar/Program Requirements:**
- Attendance at all the seminars and related events is required. If you miss more than 3 seminars you need to get approval from ICSSP leadership for continuation of the semester from an ICSSP advisor.
- Students are to make a minimum of 2 presentations during the seminar.
- Prepare for the CSAW Competition
- Organize at least one cyber security awareness event
- Identify 3 technical topics that you want to explore during this semester
- Respond to emails timely for ICSSP related matters
- Attend SFS job fair in January 2015

**First Year Students**
- Register on the SFS website
- Initiate Internship placement for Summer 2015 mentorship
- Meet with ICSSP director/advisor on a regular basis
- Identify IA related areas of interest
- Attend ICSSP orientation online

**Second Year Students**
- Present on your summer internship during the seminar
- Provide mentorship to the first year students
- Participate in an ITI security related research project 5-10 hours per week
- Identify a security related senior project and advisor by October, 2014
- Submit a completed senior project form by October 2014
- Submit a two page written description of the senior security research project by November, 2014
- Initiate full-time employment placement
Graduate Students

- Present on your summer internship during the seminar
- Submit your research plan by September 2014
- Provide leadership/Mentorship to the other students
- Provide progress report on your research by November 2014
- Present your research plan to the students
- Submit a short paper/poster at a IA related conference

The performance of each student will be assessed during the seminar.

Detailed Syllabus:
The seminar will be based on student participation

August 28:
Welcome (10 minutes)
Orientation (45 minutes)
Seminar overview (55 minutes):
\begin{itemize}
  \item Seminar topics to be covered
  \item Explore student interests, form groups, brief about the upcoming CSAW CTF (Sept 19-21 Thursday- Saturday) and Daycon competition (Sept 5 Friday)
\end{itemize}

September 4:
Student presentation on Hacking / CTF 101

September 8: 2:00pm-2:50 pm
Presentation by ANNL representative (30 minutes)

September 11:
Preparation for CSAW:
\begin{itemize}
  \item Senior students will lead this session
\end{itemize}

September 18:
ICSSP student presentation on Internship experience (60 minutes):
\begin{itemize}
  \item Karen, Gary, Peter, Wesley, David
\end{itemize}
Introduction to various tools (60 minutes):
\begin{itemize}
  \item Network Scanning, Password assessment, Vulnerability scanning etc
  \item Assign groups to develop tools (keyloger, password cracker etc)
\end{itemize}

September 25:
Topic: Hands-on-system audit

(October 4-5): Cybatt Training (https://cybati.org/education) To be confirmed
October 02:
ICSSP student presentation on Internship experience (60 minutes):
   Karolina, Nick, Anthony, Jeff, Robert
Plan for cyber security awareness event

October 09:
Topic: DDOS vulnerabilities and mitigation

October 16:
Topic: Dark Web

October 23:
Topic: SSD Forensics

October 30:
Malware Analysis

November 06:
Student presentation: TBA

November 13:
Topic: Spam filtering

November 20:
Topic: TBA

December 04:
Graduate students’ presentation

December 11:
TBA:
Closing