Syllabus

Course Number: MSIA 692
Course Title: Information Assurance Practicum I

Course Description:

The SEAD (System Engineering and Application Development) practicum provides an opportunity for students to complete their Capstone requirements, which includes hands-on opportunities and the creation of a Capstone paper and supporting documentation.

The practicum is a hands-on experiential learning extension of the current course work. During your six month practicum experience you will participate in both the administration and management of the Academic Research Network (ARNe) at Regis University and available active school projects. Every student is expected to take on the Lead Student role for one or more projects during their practicum participation.

It will take six months for you to complete your Capstone paper and supporting documentation. The first step is to form a statement of work that leads to a well-defined project. This statement of work can be directly or indirectly related to one or more active school projects the student participates in. The mid-term months are dedicated to proving your thesis. The final months are completing your written work leading to a final draft and project presentation.

Prerequisite Courses:
MSCC 610 IT Concepts, MSCC 697 Research Methods, MSCC 630 Enterprise Architecture (taken or concurrent with the practicum)

Course Overview
Capstone paper, presentation, and supporting documentation


2. Create a Power Point presentation based on the Capstone paper sections. This will be used for your final presentation. Note: The presentation should not exceed 30 minutes.

Functional Areas of Responsibility
Your work in the practicum is distributed across three areas: Operations, Research and your Capstone Paper.
Operations: You will support two main functions 1) work in one of our operating groups Access and Systems, Networking, or Integrated Services in support of the Academic Research Network (ARNe) and 2) Pen and Vulnerability testing of student labs and competition networks.

Examples of operations duties:
- Configuration management of the network
- VMware management
- Application server support
- SAN support of our VMcenter images
- Documentation
- Creating new pen testing lab write-ups and videos.
- Configuring and testing the competition environment.

Research: The research component of your work should will include faculty required topics as well as your approved project based research. Both the required and project based research priorities are dictated by active practicum projects and changes due to department, resource and student population.

Examples of required research topics are:
- Research into SCRUM agile methods.
- Investigation into cybersecurity models, frameworks and latest developments as applied to the MSIA curriculum.
- Advanced systems administration utilizing Citrix/XEN application desktop and server cloud.
- Student Cyber Defense Competitions. We host the Rocky Mountain Collegiate Cyber Defense Competition (RMCCDC) in early March. Our fall and winter students manage, develop and test the system and network configuration for the Blue Team (competitors) networks. The spring and summer students plan, develop and expand the use of competition networks in the curriculum and the next competition.

Examples of project research topics are:
- Core/Edge router management of the ARNe infrastructure as we merge with the Regis ITS platforms, processes and people
- The Radio Telescope Project (RTP) is a joint effort with Arrupe High School and the Regis College faculty. The RTP’s vision is to provide an instrument, curriculum and instructional materials to high school science students and faculty. The prototype project will provide a test-bed to develop the necessary materials to support a remote science instructor and class.
Course Outcomes:

Upon completion of this course, learners should be able to:

1. Describe and organize the inter-workings of a dynamic and agile IT organization.
2. Demonstrate project management competency through the use of SCRUM agile methods.
3. Develop an appreciation and use of forensics tools using open source penetration and vulnerability testing and evaluation tools.
4. Contribute to the health, care and feeding of the ARNe network by active participation in the success of your assigned operating group.
5. Deliver on time and task chapters of your professional project according to the schedule negotiated with your instructor.
6. Participate in the transition into and out of the practicum. Ensuring that the organization’s continuity and health is maintained and enhanced.
7. Load your final practicum deliverables onto the dropbox.

Course Materials:

Required Texts:

None

Technology Tools:

Required Hardware/Software:

1. A PC-compatible computer system running Windows 2000, XP, Vista or Windows 7. Students must be able to install new software onto their computer for the VLABs.
2. Current Antivirus definitions kept up-to-date throughout the course

Access to school virtual environments and creation of home virtual-lab

All practicum students are expected to have access to the ARNe network environment to support both the maintenance of the network and to conduct pen testing labs. Students are encouraged to establish a home virtual lab to support their research and pen testing efforts. Remote access to the school network continues to evolve it is for this reason that students will be directed to what methods are being employed during their first week of joining the practicum.

Home lab setup is a task students are expected to complete within the first two weeks of joining the practicum. A video tutorial on setting up a generic virtual lab can be found on the [Regis MediaSpace](https://www.regis.edu/multimedia/media-space).
To locate the video, simply search on tags such as SEAD, virtual lab, penetration testing, etc.

**Naming Convention for submittals**

The naming convention is LastnameDoc where

- **Doc** = (Idea, Prop, Chapt, Draft, Final, PPT, Man)
- **Idea** = one page idea paper limited to two paragraphs, what I want to do / how am I going to do it
- **Prop** = project proposal 5-7 pages in length, hypothesis, statement of work, method used in the study, deliverables, timeline
- **Chapt** = Two (literature used in the study to support SOW, peer reviewed research), One (expansion of Project SOW), Four (Project history), Five(Results), Six(Lessons), others as needed, Draft(reviewed and composite final for approval), Final(final final)
- **PPT** = (Voice over PPT)
- **Man** = (Lab Manual or documentation)

**Optional Materials:**


**Pre-Assignment:**

**Online Format:** Sign on to D2L (Home Page) and become familiar with the course navigation of the Web Curriculum.

1. Familiarize yourself with the texts.
2. Read the syllabus.
3. Visit the practicum websites:
   - SEAD Practicum – New Student Area
   - SEAD Dropbox
4. Research overview on Agile methodologies.

**Classroom-based Format:** Complete the assigned readings in the Course Activities and Assignments table below for Week

**Pre-Assignment Due Dates:**

- **Classroom-based Format:** This assignment is due the first night of class.
- **Online Format:** Before the first night of class.
## Course Assignments and Activities:

<table>
<thead>
<tr>
<th></th>
<th>Tasks and Assignments</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Review all practicum websites. Attend weekly meetings: Monday work meetings and Thursday SCRUM meeting by LYNC call. Research topics as defined. Work with SEAD to define project idea. Weekly Journal. Establish access to school lab environments. Begin creation of home virtual lab.</td>
<td>• SEAD websites and linked introductory material provided in the new student area of Sharepoint. • Go to dropbox ADD LINK and become familiar with the structure and content of the SEAD practicum and the RMCCDC folder. • Participate in Monday and Thursday meeting to familiarize yourself with active projects. • <em>Update journal and forward to instructor.</em></td>
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<td>2</td>
<td>Continue research topics as defined. Attend weekly meetings: Monday work meetings and Thursday SCRUM meeting by LYNC call. Complete your home virtual lab. Begin to work on assigned tasks. Begin pen testing lab. This will be an ongoing topic during the practicum. Weekly Journal.</td>
<td>• Research using your favorite search engine SCRUM agile methods. • During the Monday call existing and new tasks are reviewed, new students can be assigned to work on existing or new tasks as they are worked. • Every student is responsible for creating and participating in pen testing labs. Each student will do a write-up and a video of their lab(s). Post videos to MediaSpace. • <em>Update journal and forward to instructor.</em></td>
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<td>4</td>
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<td>• Research using your favorite search engine SCRUM agile methods. • During the Monday call existing and new tasks are reviewed, new students can be assigned to work on existing or new tasks as they are worked. • Every student is responsible for creating and participating in pen testing labs. Each student will do a write-up and a video of their lab(s). Post video to MediaSpace • Update journal and forward to instructor.</td>
</tr>
<tr>
<td>5</td>
<td>Continue research topics as defined. Attend weekly meetings: Monday work meetings and Thursday SCRUM meeting by LYNC call. Complete your home virtual lab. Begin to work on assigned tasks. Begin pen testing lab. This will be an ongoing topic during the practicum. Weekly Journal</td>
<td>• Research using your favorite search engine SCRUM agile methods. • During the Monday call existing and new tasks are reviewed, new students can be assigned to work on existing or new tasks as they are worked. • Every student is responsible for creating and participating in pen testing labs. Each student will do a write-up and a video of their lab(s). Post video to MediaSpace • Update journal and forward to instructor.</td>
</tr>
<tr>
<td>6</td>
<td>Continue research topics as defined. Attend weekly meetings: Monday work meetings and Thursday SCRUM meeting by LYNC call. Complete your home virtual lab. Begin to work on assigned tasks. Begin pen testing lab. This will be an ongoing topic during the practicum. Weekly Journal</td>
<td>• Research using your favorite search engine SCRUM agile methods. • During the Monday call existing and new tasks are reviewed, new students can be assigned to work on existing or new tasks as they are worked. • Expected student to have taken a lead student role on a project. • Every student is responsible for creating and participating in pen testing labs. Each student will do a write-up and a video of their lab(s). Post video to MediaSpace • Update journal and forward to instructor.</td>
</tr>
</tbody>
</table>
7 | Continue research topics as defined.  
Attend weekly meetings: Monday work meetings and Thursday SCRUM meeting by LYNC call.  
Complete your home virtual lab.  
Begin to work on assigned tasks.  
Begin pen testing lab. This will be an ongoing topic during the practicum.  
Weekly Journal | • Produce and present a draft of ideas being researched for Capstone paper.  
• During the Monday call existing and new tasks are reviewed, new students can be assigned to work on existing or new tasks as they are worked.  
• Every student is responsible for creating and participating in pen testing labs. Each student will do a write-up and a video of their lab(s). Post video to MediaSpace  
• Update journal and forward to instructor.  

8 | Continue research topics as defined.  
Attend weekly meetings: Monday work meetings and Thursday SCRUM meeting by LYNC call.  
Complete your home virtual lab.  
Begin to work on assigned tasks.  
Begin pen testing lab. This will be an ongoing topic during the practicum.  
Weekly Journal | • Final idea draft.  
• During the Monday call existing and new tasks are reviewed, new students can be assigned to work on existing or new tasks as they are worked.  
• Every student is responsible for creating and participating in pen testing labs. Each student will do a write-up and a video of their lab(s). Post video to MediaSpace  
• Update journal and forward to instructor.  

Course Policies and Procedures:  
*Note to Classroom sections only:* Exact dates for reading assignments and homework assignments may be one week earlier or later than indicated in the Course Overview Grid. Your facilitator’s syllabus, handed out the first night of class, will indicate any changes.  

**WEEKS 9-15:** During the time between the end of the Practicum I and the beginning of Practicum II students are expected to continue to work on their Capstone research, actively participate in projects and continue to contribute with pen testing labs.  

**Student Evaluation Grid**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Value (percent of overall course grade)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly updates</td>
<td>50% (10% each)</td>
</tr>
<tr>
<td>Monday and Thursday conference calls</td>
<td>20%</td>
</tr>
<tr>
<td>Participation</td>
<td>20%</td>
</tr>
<tr>
<td>Collaboration</td>
<td>10%</td>
</tr>
<tr>
<td>Course Total</td>
<td>100%</td>
</tr>
</tbody>
</table>
Research Papers

All research papers must be in the APA format. Many students make mistakes especially in their content and citations. A standard research paper is normally no less than 85% of the student’s original work for this course, (i.e. your thoughts, your opinions, your position) and 15% maximum quotations from another person’s original work (i.e. quotes from sources). For example, if a student cuts-and-pastes the majority of content from another person’s work (even though they may give the original author credit in the citation) and turn it in as their own work, this is unacceptable and will result in one of the sanctions for plagiarism addressed below. The student will not be allowed to redo plagiarized work. Make sure you give credit to the author and source you researched when preparing your papers. Again, I am expecting 85% of the research paper to be the student’s original work for this course, not a cut and paste from some white paper on the Internet.

Participation

Because of the accelerated nature of the course, class participation is very important. Class participation/effort is important because we can all learn from each other. Your participation points can make a difference in the final grade. If the student doesn't participate during any given week, they will lose the participation points of that week.

Participation means:
1. a. Present in class every session (classroom)
   b. Present in the forum every week (online)
2. a. Effectively responds to questions from the facilitator (classroom)
   b. Regularly checks forum and post all required assignments/discussion questions/items by the deadlines (online)
3. Contributes to classroom/forum discussions, etc.

CC&IS Grading Scale

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 to 100</td>
<td>4.00</td>
</tr>
<tr>
<td>A–</td>
<td>90 to less than 93</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>87 to less than 90</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>83 to less than 87</td>
<td>3.00</td>
</tr>
<tr>
<td>B–</td>
<td>80 to less than 83</td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td>77 to less than 80</td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td>73 to less than 77</td>
<td>2.00</td>
</tr>
<tr>
<td>C–</td>
<td>70 to less than 73</td>
<td>1.67</td>
</tr>
<tr>
<td>D+</td>
<td>67 to less than 70</td>
<td>1.33</td>
</tr>
<tr>
<td>D</td>
<td>63 to less than 67</td>
<td>1.00</td>
</tr>
<tr>
<td>Grade</td>
<td>Description</td>
<td>Value</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>D-</td>
<td>60 to less than 63</td>
<td>.67</td>
</tr>
<tr>
<td>F</td>
<td>Less than 60</td>
<td>0</td>
</tr>
</tbody>
</table>

Additional information about grading can be found in the latest edition of the University Catalog, available at [http://www.regis.edu/Academics/Course%20Catalog.aspx](http://www.regis.edu/Academics/Course%20Catalog.aspx).

**CC&IS Policies and Procedures**

Each of the following CC&IS Policies & Procedures is incorporated here by reference. Students are expected to review this information each term, and agree to the policies and procedures as identified here and specified in the latest edition of the University Catalog, available at [http://www.regis.edu/Academics/Course%20Catalog.aspx](http://www.regis.edu/Academics/Course%20Catalog.aspx) or at the link provided.

- The CC&IS Academic Integrity Policy.
- The Student Honor Code and Student Standards of Conduct.
- Incomplete Grade Policy, Pass / No Pass Grades, Grade Reports.
- The Information Privacy policy and FERPA. For more information regarding FERPA, visit the [U.S. Department of Education](http://www.ed.gov). For more information regarding FERPA, visit the U.S. Department of Education.
- The HIPAA policies for protected health information. The complete Regis University HIPAA Privacy & Security policy can be found here: [http://www.regis.edu/About-Regis-University/University-Offices-and-Services/Auxiliary-Business/HIPAA.aspx](http://www.regis.edu/About-Regis-University/University-Offices-and-Services/Auxiliary-Business/HIPAA.aspx).

The CC&IS Policies & Procedures Syllabus Addendum summarizes additional important policies including, Diversity, Equal Access, Disability Services, and Attendance & Participation that apply to every course offered by the College of Computer & Information Sciences at Regis University. A copy of the CC&IS Policies & Procedures Syllabus Addendum can be found here: [https://in2.regis.edu/sites/ccis/policies/Repository/CCIS%20Syllabus%20Addendum.docx](https://in2.regis.edu/sites/ccis/policies/Repository/CCIS%20Syllabus%20Addendum.docx).