16 Aug 2019

Subj: SY201 COURSE POLICY – AY2020 Fall

Ref: (a) ACDEANINST 1531.58, Administration of Academic Programs
(b) ACDEANINST 1531.64, Academic Accountability
(c) CYBSCIINST 3120.32, Cyber Science Department Standard Organization and Regulations Manual
(d) ACDEANNOTE 1531, Academic Scheduling and Start of Semester Items

Encl: (1) SY201 Collaboration Policy
(2) SY201 Course Syllabus
(3) Contract of Learning

1. Purpose. Per references (a) through (d), the following comprises the course policies for SY201 – Cyber Operations Fundamentals, AY2020 Fall term.

*WARNING: As a student in this class, you will learn concepts and gain experience with tools that could be used unethically. DO NOT use knowledge or experience gained for unethical purposes. You MAY NOT use tools and techniques learned in this class to violate USNA policy, or any other government restrictions on information system use. You should never employ offensive cyber operations on any information system without the express written consent of the information system owner or legal authority.*

2. General Information.

- Course.

  Course: SY201 – Cyber Operations Fundamentals
  Credits: 3-2-4 (3 hours recitation, 2 hours laboratory, 4 credit hours)
  Term: AY2020 Fall
  Prerequisites: SY110
  Meeting Times:
  Section 1121 – MWF1,T12 (MI295) (LT Galvin)
  Section 2141 – MWF2,R12 (MI295) (Dr. Casey)
  Section 3321 – MWF3,T34 (MI295) (LT Galvin)
  Section 4341 – MWF4,R34 (MI295) (Dr. Casey)
  Section 5521 – MWF5,T56 (MI295) (Dr. Fenske)
  Section 6541 – MWF6,R56 (MI295) (Dr. Fenske)

- Instructors information

  Dr. William Casey (wcasey@usna.edu, Leahy Hall 102)
  Dr. Ellis Fenske (fenske@usna.edu, Leahy Hall 102)
  LT Timothy Galvin (tgalvin@usna.edu, Leahy Hall 101)

3. Background. SY201 is required course for students in the Cyber Operations major taught at the United States Naval Academy. The course is offered as a 3-2-4 (3 hours recitation, 2 hours laboratory, 4 credit hours), to sections up to 16 students in size; the course is taught to all second year SCY major students in the Fall 16-week semester each academic year. Since students at the United States Naval Academy do not start taking courses in their major until the Fall of their second year, SY201 is only a first semester course, out of six semesters within a major, within the SCY major. SY110 serves as a prerequisite for SY201; SY201 requires introductory knowledge of cyber domain topics from SY110. As an introductory programming course, no prior programming experience is required and the content was designed with that in mind. SY201 covers standard, introductory procedural programming concepts, and introduces object oriented programming concepts. Python 3 is used in SY201 due to its approachability for new programmers, and its wide use in cyber operations. The students write Python programs in a Linux virtual machine that they run on their issued laptops. A Linux VM approach was selected to introduce the students to Linux, and to expand their command line skills; the students run their Python scripts from the command line, IDLE is primarily used for quick examples. Until the Hopper Hall construction is complete SY201 is run in a classroom; the students make use of their virtual machines in SY201 for programming activities on recitation and lab days. There are required textbooks for SY201, as well as online student notes.

4. Course Description. In SY201 students develop introductory programming skills through the exploration of programming utilizing Python in a UNIX environment. Students begin their journey to becoming professionals in the cyber domain. The activities in the course are covered from a cyber operations perspective.

5. Discipline Indicators. The knowledge and experience students gain in SY201 support students achieving the following Cyber Operations program outcomes:

- Supported and Assessed:
    - (b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution;
    - (e) An understanding of professional, ethical, legal, security, and social issues and responsibilities;
    - (h) Recognition of the need for and ability to engage in continuing professional development.
- Supported:
    - (c) An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs;
    - (f) An ability to communicate effectively with a range of audiences;
    - (i) An ability to use current techniques, skills, and tools necessary for computing practices.

6. Course Learning Outcomes. Through the course and collective efforts of the students, students will be able to:

- Determine the basic programming concepts required to solve a problem through programming (supports Cyber Operations program Student Outcome (b));
- Design, develop, debug, and document programs in Python using structured programming techniques (supports Cyber Operations program Student Outcome (c));
- Perform normal user operations from the shell in a UNIX environment (supports Cyber Operations program Student Outcome (i));
- Display basic technical communication capabilities (supports Cyber Operations program Student Outcome (f));
- Describe the importance of and common mechanisms for continuing professional development (supports Cyber Operations program Student Outcome (h)).

7. Course Resources.

a. You. You will achieve the course objectives through sustained, active participation in the course activities, course discussions, and course assignments. This is a hands-on course that requires your active participation in the learning process. Your individual and group success in this course is highly dependent on your active participation in the course activities.

b. Textbooks. There is required textbook, and one recommended textbook for SY201.
   - Liang, Y. Daniel. *Introduction to Programming Using Python*. Pearson, 2013. Print.
   - Lutz, Mark. *Python Pocket Reference*. O'Reilly Media, 2014. Print, Electronic.

c. Course Website. The course website will be the primary method you will access course material outside of class. The course website is on the Naval Academy Intranet at http://courses.cyber.usna.edu/SY201/

d. Extra Instruction. If you are struggling with course material or want to dig deeper into the course material, seek extra instruction. See your instructor for office hours.

e. MGSP. There will be MGSP sessions for SY201, see the course web site or the Center for Academic Excellence for the schedule.

8. Grading. Every effort will be made to ensure prompt and sufficient feedback on graded material. Feedback and grades will be clearly identified on returned work.

a. Assignments: In class and outside of class there will be times that you will be authorized to work (collaborate) in groups and other times that you will not be authorized to work in groups; studying and discussing the course material in groups is recommended.

   i. **Programming Assignments.** In general you will be allowed to discuss topics and concepts on programming assignments with other students in the course (see Section 7 below). Use discussions to further your understanding of the material. Programming assignments will be used as a part of your learning process, and as a means to assess your learning. Programming assignments will be made available through the course website. You can expect that programming assignments will take effort outside of the designated laboratory times to complete. Programming

laboratory assignments will generally be due a week after assigned, unless otherwise stated; there will be multiple programming laboratory assignments.

a) Late Programming Assignments. Programming assignments will have a specific due date and time, the timestamp on the submit server (submit.cs.usna.edu) will be used to check submission date and time. A late penalty of 4^(N+1), where N is the number of days late, will be assessed on programming assignments submitted after the due date and time.

ii. **Examinations**. You will demonstrate your knowledge and understanding of the material through examinations, all exams will be individual effort. The 12-Week exam will focus on material since the 6-Week exam, but will require an understanding of material covered on the 6-Week exam; the final exam will be cumulative. On the final exam you must demonstrate knowledge at least at the 50% level to pass the course regardless of your other grades in the course.

iii. **Participation**. Participation will be used as part of your learning process. Your instructor will bring to class on some particular days some programming problems for which you will submit some solutions for at least some of them before you leave the class.

b. Weighting.

| **Category/Grading Period** | **6 Week** | **12 Week** | **End of Course** |
|---|---|---|---|
| 6 Week Exam | 45% | 10% | 10% |
| 12 Week Exam | - | 35% | 10% |
| Final Exam | - | - | 25% |
| Programming – Labs | 35% | 35% | 35% |
| In-Class / Homework | 10% | 10% | 10% |
| Instructor Option | 10% | 10% | 10% |

Note: Homework and Programming grades will be cumulative; for example the 12-Week grading period homework grade will include homework assignments from the beginning of the course through the 12-Week grading period.

c. Late Policy. Late work will not be accepted for credit, but will be reviewed and returned with feedback provided, with the exception of programming assignments discussed above.

d. Absences. As a leader you are expected to look ahead, identify issues, and propose solutions. It is your responsibility to discuss your plans to make up course material with your instructor at least one week prior to a planned absence (MO, medical/dental appointment, etc.). If an unplanned absence occurs at the last minute you shall contact your instructor (likely via email) to arrange plans to make up course material as soon as possible. Failing to discuss plans to make-up material prior to a planned absence or by the

day you return from an unplanned absence will result in the missed assignments being treated as late. Effort will be made to make the requisite course material available to you before a planned absence to allow you to complete assignments prior to your departure to support you not falling behind academically.

9. Honor Policy. Enclosure (1) contains the definition of the different collaboration policies that will be used to specify what actions are authorized and unauthorized. Unless stated otherwise on a specific assignment the following collaboration policies shall apply to the assignments of that type. You are charged with understanding and executing the honor policy, and seeking clarification at any time if there is a potential misconception; if in doubt, seek clarification from your Instructor.
Note: Copying will never be considered as collaboration; copying will always be considered a violation of the honor policy.
   a. Authorized Resources. See the course website for the current list of resources that are authorized for referencing during course activities per the associated collaboration level.
   b. Unauthorized Resources. See the course website for the current list of resources that are unauthorized for referencing during any course activity regardless of collaboration level. Use of unauthorized resources will be considered a violation of the course honor policy.

10. Other.
   a. Classroom Decorum. The course will typically be held in a classroom. Beverages are permitted in classrooms and laboratories provided they are in closed containers. No food or smokeless tobacco products are permitted in classrooms or laboratories. You shall attend to personal matters before the start of class; you will not be allowed to make head calls during class.
   b. Section Leader. The Section Leader will:
      i. Call the class to attention at the beginning and end of each class session, and verbally report muster results (per reference (b));
      ii. Report to the Mathematics and Science Division front office (MI380) in the event the Instructor is not present within five minutes of the start of a class session (per reference (b));
   c. Assist the Instructor as directed by the Instructor.
      i. Act as Section liaison to the Instructor.
      ii. Assistant Section Leader. The Assistant Section Leader will:
      iii. Assist Section Leader as directed by the Section Leader;
      iv. Act as Section Leader in the absence of the Section Leader (per reference (b)).

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