

**William Paterson University of New Jersey**  
**College of Science and Health**  
**Department of Computer Science**  
**Analysis of Course Coverage and Assessment Report Data**  
**Fall 2018 – Spring 2019 Assessment Cycle**

**Course Number:** CS 4800 (Computer Science Seminar)

**Course Coordination Committee Members:** John P. Najarian

**Date:** June 8, 2019

**A. Course Pre-requisites/Co-Requisites**

**a) Problems/Issues Identified**

No problems were observed, identified, or specified.

In both Fall 2018 and Spring 2019 CCAR's, the comment was:

“This is a required course for CS major students. Students take this class in their senior year. They are equipped with the necessary prerequisites to take this class.”

Therefore, one can only conclude the requisite background knowledge, skills, abilities, professional growth/development, and maturity is optimal in meeting this culminating capstone.

**b) Suggestions for Improvement**

No improvement is necessary. When an assessment metric is at a maximal value (i.e. 100 %) over the period of two observations, the need and directions for improvement are not indicated.

Hypothetical consideration: It is the philosophy of progressive enlightenment, realization/actualization, and higher attainment (i.e. recursive refinement) to suggest, perhaps, we could possibly promote greater challenge/expectation.

Verdict on the Hypothetics: However, this already is the summit experience in inquiry, professional growth, and the launch point of careers. Several of these students have presented at conferences (which is not mentioned in the CCAR at this point but as an endnote, specifically to quote:

“The project and presentation scores were team-based (all the team members in a team got the same score if there was no dispute among team members) and the class tasks, quizzes, and exam were of course individual work. The overall performance is considered in the A level. Three of the projects were presented in the American Society of Engineering Education Conference in April 2019 as posters and presented as papers in the IEEE LISAT conference in May 2019. “

Excelsior !

## **B. Course Objectives**

### **a) Problems/Issues Identified:**

As observed in both CCAR's, "The course objectives are well designed."

### **b) Suggestions for Improvement**

Modifications were not deemed necessary, nor requested. Hence no suggestions

## **C. Course Student Outcomes**

### **a) Problems/Issues Identified:**

No problem identified. (For the sake of brevity, no further elaborations or hypothetical reflections will be considered.)

### **b) Suggestions for Improvement**

No suggestions were made by the instructor.

## **D. Course Content**

### **a) Problems/Issues Identified:**

The textbook used by the instructor is: Reynolds, George. Ethics in Information Technology. 6th ed. Cengage Learning (Course Technology /ITC Thomson), 2019. (and also the 5<sup>th</sup> edition) He has also provided lecture notes on the Blackboard course management system.

The evident interpretation of this phraseology (which occurs over both semesters) is that the contents in Reynolds is sufficient. I concur, as it is the most popular and standardized text (though skewed towards corporate perspectives in IT). It is used by most faculty who teach CS 4800 (including this CCAR analyzer) for decades with continuous success.

### **b) Suggestions for Improvement**

As all parties are satisfied with this text, this text remains adopted for the course because it is so well adapted to the course. Why change (?), though Sara Baase's "A Gift of Fire" has a finer literary texture, readability, rhetorical style, and philosophical perspective.

## **E. Support for the Attainment of the CS Program Student Outcomes**

### **Student Outcome S1: Communicate effectively in a variety of professional contexts.**

In this class, students are required to produce a report and to make an oral presentation on a topic related to the legal issues for computing professionals and on the impact of computing technology in society. The reports are graded by the instructor of the course, and the presentations are graded by the instructor and the students in the class. Students are also required to complete a team-project on a topic of current interest in computer science or new development in computing technologies. They must also produce a written report of their project and also make an oral presentation. This course is therefore consistent with this student outcome.

### **Student Outcome S4: Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.**

One major objective of this course is for students to complete a team-project on a topic of current interest in computer science or new development in computing technologies. They must also produce a written report of their project and also make an oral presentation. How well students work in a group is a major criterion in the evaluation of their project. This course is therefore consistent with this program student outcome.

### **Student Outcome S5: Demonstrate abilities to locate and make effective use of information.**

One major objective of this course is for students to complete a team-project on a topic of current interest in computer science or new development in computing technologies. They must also produce a written report of their project and also make an oral presentation. The evaluation of project reports and the oral presentations takes into consideration the quality of the reports and the efforts that students put into their research work. In fact, as part of this course, a librarian gives a lecture on how to use the library resources properly. This course is therefore consistent with this program student outcome.

### **Student Outcome S9: Recognize professional responsibilities and make informed judgements in computing practice based legal and ethical principles.**

In this class, we introduce the ethical and legal issues for computing professionals and the impact of computing technology in society. Students are also required to produce a report and to make a presentation on a topic related to the ethical issues for computing professionals and on the impact of computing technology in society. The reports are graded by the instructor of the course, and the presentations are graded by the instructor and the students in the class. This course is therefore consistent with this program student outcome.

**F. Analysis of the Results of the Evaluations of the Course Student Outcomes Assessment Data (and Suggested Improvements)**

Student Outcomes with Observed Deficiencies	Suggested Improvements*
<p>L1. Articulate the impact of computers on our society in key areas including privacy, security, benefits and risks of computers, right of intellectual property and software piracy, the two sides of software ownership and the patent law, consequences of the artificial intelligence, the balance between censorship and freedom of speech in cyberspace, the monopolizing and controlling information by small number of corporations. Measure: exams, surveys, and projects.</p>	<p>None specified due to 100% satisfaction.</p>
<p>L2. Gain a deeper and more systematic understanding of scientific/research methods by carrying out a substantial research-oriented project on a current topic of interest in computer science. Measure: assignments and projects.</p>	<p>None specified due to 100% satisfaction.</p>
<p>L3. Explain the trends in information technologies and computer science.</p>	<p>None specified due to 100% satisfaction.</p>
<p>L4. Describe the responsibilities of expected of a computer professional and understand the code of ethics of computer professionals stipulated by computer professional organizations such as IEEE and ACM. Measure: exams, surveys, and projects.</p>	<p>None specified due to 100% satisfaction.</p>

\* (results are consistent across both semesters)

**G. UCC Technology Intensive Learning Outcome Assessment (and Suggested Improvements)**

Student Outcomes	Suggested Improvements*
<p>All students must be able to do a senior project that can either involve researching a current topic in the journals, like a web crawling algorithm, or a large programming project that might be a game or might have grown out of their data base or software engineering course.</p>	<p>None specified due to 100% satisfaction.</p>
<p>For the third of the course on ethics for the computer professional, the students must be able to give presentations and write essays on privacy, freedom of expression, different forms of computer crime and protection from these crimes.</p>	<p>None specified due to 100% satisfaction.</p>
<p>Students must understand their responsibility to produce products that work as advertised, and how technology has changed the lives of people in developing countries.</p>	<p>None specified due to 100% satisfaction.</p>
<p>Students must be able distinguish between what is legal and what is ethical in the workplace and discuss the legal means of protecting intellectual property.</p>	<p>None specified due to 100% satisfaction.</p>

\* (results are consistent across both semesters)

**H. UCC Writing Intensive Learning Outcome Assessment (and Suggested Improvements)**

<b>Student Outcomes</b>	<b>Suggested Improvements</b> (results are consistent across both semesters)
<p>The students should be able to write 4 short essays for the computer ethics segment of the course on such topics as privacy vs. freedom of expression, what they would include in a lecture on protecting computers from computer crime, the ways one can safeguard intellectual property, what they would do if pressured to release a buggy code, the benefits and disadvantages of outsourcing, etc. The topics of these essays are designed to stimulate critical thinking.</p>	<p>None specified due to 100% satisfaction.</p>
<p>Since this is a course in ethics, the student must use proper citations. When students lift material for their presentations from our ethics book or from the web they are publicly criticized and reminded that this is an ethics course as well as a senior project class.</p>	<p>None specified due to 100% satisfaction.</p>