

Final Project Evaluation

Aaron Hernandez

IDS 300

Professor Sharon M. Martin

Dec 1, 2022

In this paper I will be analyzing three course curriculum classes in the scope of interdisciplinary studies. I will be analyzing these classes based on their individual disciplinary categories. I will find the conflicts between disciplines and create common ground. I will also be analyzing these disciplines in reference to a specific job position in cybersecurity. Through this paper I will create connections between the job position and the three disciplines. Throughout this paper I will also strive to use vocabulary and concepts learned throughout this interdisciplinary studies class.

The three classes I have chosen to focus on in the interdisciplinary study paper are as follows: Philosophy 355E Cybersecurity Ethics, Criminology 425W Cyber Strategy and Policies, and Computer Science 150 Problem Solving & Programming 1. The job position I have chosen is an Information Security Analysts position. An interdisciplinary approach is essential to use in this case to gain an understanding of each discipline. This approach will also allow me to understand how these disciplines coincide in future employment opportunities such as an Information Security Analyst job. The interdisciplinary approach also helps me understand the strengths and weaknesses of each discipline and provides me with a more well-rounded understanding.

Philosophy 355E Cybersecurity Ethics 3 Credits

This course reviews ethics relevant to computer science and information technology. This course provided an ethical perspective when considering the following issues: social impact, privacy concerns, digital technology, etc (*Coursicle*). This course also focuses on the obligations of Information Technology professionals and how ethics play a role throughout the work environment and career. This course provides a broad understanding of cyber ethics and fundamental theories concerning the previous issues.

Criminology 425W Cyber Strategy and Policies

This writing intensive course focuses on cybersecurity policies and strategies. It stresses the importance of strategy development and policymaking in cybersecurity. The topics reviewed throughout this course include risk management, government institutions, implementing

cybersecurity policies, the social-political implications, etc (*Coursicle*). This course will focus on the connection between national security and cybersecurity policy.

Computer Science 150 Problem Solving & Programming 1

This course focuses on computer programming and problem-solving fundamentals in C++. The topic introduced in this course includes problem-solving, algorithm development, testing, C++ language concepts, etc. The C++ concepts introduced include independent variables, dependent variables, global variables, pointers, arrays, classes, flow statements, etc.

In this section, I will be researching the following disciplines: criminology, philosophy, and computer science. I will then find the commonalities and differences between the disciplines. A common theme for these disciplines is their focus on cybersecurity; A secondary commonality for criminology and ethics is their focus on politics and implementation. A conflict for these disciplines is their world perspectives. A second conflict between these disciplines is the skills taught in classes can vary. I believe that all these disciplines and classes are important for our curriculum. This is because these classes help us gain a larger perspective on cybersecurity. Which in turn allows us to be more well-rounded employees in the future. One related discipline/skill for Information Security Analysts is learned in CS 150 which is complex problem-solving. Information Security Analyst also tends to need reading comprehension skills which can coincide with the criminology 425W. In this course, you tend to read through massive articles and analyze the information to write a paper. I can imagine a skill like this being used in the daily routine of a security analyst. Information Security Analysts are also responsible for proposing and implementing risk mitigation strategies that can be directly correlated to both the

ethics and criminology classes. While in the ethics class we learn how to ethically implement rules and tactics; While in the criminology class we dive deep into the rules and tactics themselves.

Discipline	Classification	History	Perspective/WorldView	Content	Research
Computer Science	Applied Field	The first technology was introduced in 1450 with the introduction of the slide ruler and other mechanical technology (<i>A brief history of IT</i>). In 1649 Blaise Pascal introduced the first calculator. From 1840 - 1940 electromechanical age began with the introduction of radio and larger computers. Such as the IBM Mark 1 which was introduced in 1944 (<i>A brief history of IT</i>). The electronic age followed with the introduction of modern technology such as relays.	Practitioners of IT/CS tend to view the world from a problem solution prospective. They tend to focus on the analytics of issues breaking it down logically.	Empirical Data	Quantitative
Criminology	Applied Field	Criminology began in the late 1700s in Europe (Criminology, 2021). The first classical schools of criminology focused on theories relating to crime and punishment development. These people included Cesare Beccaria and Jermet Bentham (Criminology, 2021). They focused on creating a new criminal justices system because they saw the flaws and weaknesses of the current system in place. While criminology continued to develop the Neo Classical school began to make their own revisions and developments on the theories left from the Classical era (Criminology, 2021).	Practitioners of this field tend to focus on deviance of humanity. They also tend to view the world through actions and behavior. When problem solving they tend to view the fact through the greater good for society.	Empirical Data	Qualitative

Philosophy	Humanities	The history of philosophy begins in the late 300 BCE with Aristotle poems. In 469 BC Socrates and Plato followed in Aristotle's footsteps and laid the groundwork for present day philosophy (<i>Home</i>). This era of philosophy is called Platonism. While in 310 AD the Romans began to continue developing the ideas left from platonism. Some important figures from this time were Zeno of Citium, Cleanthes of Assos, and Chrysippus of Soli (<i>Home</i>). They provide the theories relating to vice which include good vice, bad vice, anything else in the world is indifferent. These were some of the first application theories. Modern day impact came in the late 1500s with Rene Descartes and Baruch Spinoza who were responsible for scholasticism through skepticism (<i>Home</i>).	Practitioners of those fields tend to view the world through humanity. When faced with a problem they tend to focus on what would be best for the people rather than focusing on the number.	Empirical Data	Qualitative
------------	------------	--	--	----------------	-------------

In this section, I will analyze the strengths and weaknesses of each discipline. The discipline I will be analyzing is criminology. Some of the strengths of criminology include its focus on both reading and writing, analyzing articles, and critical thinking skills. It also provides a general understanding of international and national cybersecurity policies. Its weaknesses include too much focus on politics and not enough creative thinking. It also did not provide enough communication skills. A strength of Computer Science was its introduction to creative and complex problem-solving. It also provided a general and comprehensive knowledge of C++. A weakness of this course was no communication or writing skills. Finally, Philosophy provides an overview of both ethical issues and problem-solving skills; It also provides critical thinking and general theories concerning cybersecurity. It also provided diversity in comprehension skills

and communication skills. A weakness of this discipline was its focus on humanity versus numerical values. CS developed technical skills for the cybersecurity industry. It also provided problem-solving techniques to face potential issues in the industry. Criminology provided some important background and understanding of industry language and politics. Philosophy provided critical thinking skills and industry ethics. Overall I personally believe that the curriculum is fairly well-rounded. Each discipline brings its own tools which help create a ready employee in the cybersecurity field. Although in this paper we only focus on 3 classes the curriculum does have a few other classes which fall under cyber security but provide the student with different perspectives and ideas.

Overall criminology, philosophy, and computer science disciplines have different perspectives on problem-solving. They also tend to focus on different portions of the problem to solve the issue. This can lead to a student having issues when it comes to creating a solution because all three disciplines would have their unique solution. Criminology practitioners would focus on the laws and policies of possible solutions until one fits within the lines. Criminology practitioners also tend to be qualitative in problem-solving. While a philosophy practitioner would focus on how humanity was affected by their solution. Philosophy practitioners tend to choose a solution that is right for the people even if it does not fit within the law. Computer science practitioners would analytically and numerically solve the issue. Focusing on the facts rather than focusing on the effects of their solution. A philosophy major would have trouble understanding why a computer science major focused on the facts rather than speaking to the people affected by the problem. While a criminology major would be confused about why the philosophy major made an effort to speak with the people and focused mostly on their needs.

Overall a practitioner who only focused on each discipline would be confused when creating the solution to the problem. Luckily the rest of the curriculum includes classes such as this one which helps bring together these methods and ideals to create the best overall solution. An important thing to note here is that a curriculum is made up of multiple classes, especially for a major created in STEM. The whole curriculum is more important than the sum of its parts. This is why a class like interdisciplinary studies is an important part of any curriculum regardless of major or profession.

Common ground can be established between these disciplines. Philosophy establishes the basic understanding of the ethical perspective when integrating politics. While Criminology establishes those politics and laws which are later reviewed in Philosophy. Finally CS establishes the basic understanding of the C++ coding language which is used to create programs which need to follow both ethical and policy guidelines and rules. Some other common ground between these disciplines are the topics which are reviewed throughout the different disciplines. Although a bit different they have a general understanding of cybersecurity as their main focus. In CS their goal was to create programs that are not only efficient but also secure. Teaching material which covered code integration and security. These are all concepts that are important to create a well rounded cybersecurity analyst. Some of the points not included in the common ground section was Philosophy's focus on speaking with individuals because this would create a border between the other disciplines. Another point not included in common ground is CS's focus on qualitative data because it differs from the other two disciplinary perspectives.

Cyber security analysts according to the occupation profile require a knowledge of some kind of coding language in order to alter security controls. Which in most cases are run by systems coded in c++ or linux. They also require a knowledge of how to ethically introduce this coding language in the system. Politics plays an important role between these two steps because it creates the framework for the scope of the projects. Analysts need to create protocols and security measures which are created with cybersecurity guidelines in mind. These guidelines are introduced throughout these three disciplines.

This paper on the analysis of criminology, philosophy, and computer science has thoroughly reviewed these disciplines in the scope of interdisciplinary studies. These three disciplines properly prepare an individual for a job as a cybersecurity analyst. They provide the groundwork and knowledge necessary for this position; They also provide vocabulary, oral communication, and writing skills. Finally, these disciplines also provide critical thinking and complex problem-solving skills which are essential in cybersecurity. Although these disciplines may have opposing views and conflicts their common ground is what makes them an essential part of the curriculum. One discipline alone would not be fair in a cyber security analyst's position alone but the three disciplines together provide a wide scope of tools and knowledge.