



Student Handbook (Diploma)



Philadelphia Cyber

Applied Diploma in Cyber Security

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1. GENERAL INFORMATION

This course has collaborated and integrated with Philadelphia University and Green Circle company which is available on the web, through live videos sessions and, virtual labs which each student will be with instructors that respond on the students so, contains important information for students undertaking the Applied Training Diploma in Cyber Security.

Your degree program is subject to regulations contained in the **University Students Guide**. This departmental handbook interprets the regulations and your tutors may give advice, but the University Students Guide defines the regulations.

1.1 Tutors

As soon as you are enrolled in the Programme, a tutor will be assigned for you. This tutor is one of the academic staff members in the Department who will guide and help you throughout your stay in the Department.

1.2 Registration

Admission to this applied training diploma is open for trainees who are looking to acquire the required practical skills and specialized knowledge in cybersecurity such as but not limited to:

- Current students pursuing their Diploma, Bachelor, Masters, and recent graduates
- learners who are looking to choose, or already have chosen, a career in a business-related sector but require basic knowledge and competences in the field of Cyber Security
- Employees from private and public sectors such police forces, army, financial institutions, government agencies.

1.3 Timetable

Lecture's timetable is published separately from this book, and it will be available for you after registration process is completed. Whilst every attempt is made to timetable reasonable combinations of course units (modules), various constraints make some combinations and outside options impossible. If you have a timetable problem, please consult your personal tutor in the first instance.

2. PROGRAMME OVERVIEW

Cyber security has never been more important, and the demand for qualified cyber security professionals is huge. This conversion course is designed for individuals who don't have a cybersecurity background but want to pursue a career in this exciting field.

As a Cyber professional it will be your role to create and execute secure network solutions, providing security against cyber-attacks and hackers. You'll also monitor and test those systems on a regular basis to make sure the systems and networks are updated and working perfectly.

2.1 Aims and Learning Outcomes of the Programme

Through this course you will develop your ability to implement and manage cyber defences. You will consider technical approaches as well as commercial and human factors which affect how organisations respond to cyber-attacks. Developing these technical skills and knowledge will prepare you to successfully start your cybersecurity career.

2.1.1 Aims, vision, mission, goal, and value

After completing this Diploma, you will have gained an understanding of cybersecurity fundamentals and how to protect IT systems from common cyberattacks. During the course you will gain practical experience of applying fundamental Red Team Blue Team cybersecurity. The practical modules will introduce you to exploitation techniques. Each module consists of multiple exercises. At one side, during the Red Team exercises you will be performing an exploit; and, at the other side, during the Blue Team exercises you will be applying preventative measures to prevent that exploit from happening. The initial Red Team exploit can then be repeated to check whether the measures you have put in place have been successful.

Aim:

The Applied Diploma at Philadelphia University and gives you the opportunity to:

- Understand cybersecurity fundamentals and how to protect IT systems from common cyberattacks.
- You will gain practical experience of applying fundamental Red Team Blue Team cybersecurity.
- Given the increasing need for strong cybersecurity measures and the skills shortage in this area, this course is designed to make you an attractive candidate in this sector.
- Develop your capacity to learn and participate in society as competent professionals.
- Prepare you for the world of work and develop self-confidence and problem-solving abilities.
- Be a graduate who can adapt to changing technology and have the ability to recognize technological and human trends.
- Be a graduate who meets the industry standard in cyber security world and have experience in the use of general tools and technologies used in the design and implementation of security.
- Provide different study opportunities, which are comparable with national, and international academic qualifications.

Vision:

The preparation of graduates in the field of cyber security, equipped with specialized practical knowledge and skills, and motivated by lifelong learning and the ability to keep up with the requirements of the times

Mission:

The mission of offering this applied diploma is to:

Provide students with the necessary theoretical knowledge, qualifications, and practical applied skills in the field of cyber security.

The preparation of qualified and specialized human personnel in the professions related to analysis, design, development, operation, management, monitoring and examination of safe systems and software.

Enable students to adapt to future rapid developments in the field of cyber security by providing them with solid foundations in their basic concepts, principles, methods and methodologies.

Preparing students to serve their communities as individuals, groups or organizations by ensuring secure information, programs and applications for them.

Enable students to develop research skills, teamwork, problem solving, career advancement and lifelong independent learning.

2.1.2 Learning Outcomes

Learning outcomes describe what you should know and be able to do if you make full use of the opportunities for learning that we provide. All these skills are described in the following areas (A, B). In the individual module syllabi, the categories of learning outcomes (A, B) and the individual learning outcomes appropriate to the module are identified.

A- Knowledge and Understanding

- A1) Know and understand the essential mathematics relevant to cyber security.
- A2) Understand and apply a wide range of principles and tools available to the cyber professional, such as design methodologies, choice of algorithm, and penetration testing techniques.
- A3) Know and understand the principles of various current applications and research areas of the subject including artificial intelligence, databases, software engineering, net-centric, and
- A4) Know and understand a wide range of software and hardware used to secure systems.
- A5) Recognise the professional and ethical responsibilities of the practising cyber professional including understanding the need for quality, security, and computer ethics.

B- Intellectual (thinking) skills - able to

- B1) analyse a wide range of problems and provide solutions related to the design and configuration of an information systems through suitable appropriate methods.
- B2) identify a range of solutions and critically evaluate them and justify proposed design solutions.
- B3) practice self-learning by using the e-courses.
distributed systems.

2.2 Overview of the Programme Structure

The system of study at Philadelphia University is the course system that depends on the credit hours. Each academic year consists of two semesters and an optional semester (the summer semester). An individual course of lectures is known as a "**course unit**" or a "**module**". Each module has one or more prerequisite modules. The curriculum contains modules that are from University Requirements, Faculty Requirements, Department Requirements, and Supportive Requirements. Each module has 3 credit hours per week. However, some modules are supported by tutorials and some continuous assessment, such as seminars or laboratory work, usually amounting to 1 hour per week.

Study Plan for Diploma Degree in
Information Security and Cyber Security
(30 Credit Hours)

Study hours (Sat (4pm-6pm) , Tuesday (5pm-6pm) , Thursday (5pm-6pm))

(1) foundation requirements for non-IT-related (3 Hours Credit)

| Module No. | Module Name | Credit Hours | Start | End | Days |
|------------|------------------------------------|--------------|-----------|------------|-------------|
| CS001 | English Skills and IT Fundamentals | 3 | 19/9/2021 | 14/10/2021 | Sa - Tu -Th |

(2): Major Requirements (9 Hours Credit)

| Module No. | Module Name | Credit Hours | Start | End | Day |
|------------|---|--------------|------------|-----------|----------|
| CS101 | Information System Security | 3 | 16/10/2021 | 12/3/2022 | Saturday |
| CS102 | Programming with Python | 3 | 19/10/2021 | 15/3/2022 | Tuesday |
| CS103 | Networking and data security fundamentals | 3 | 19/10/2021 | 15/3/2022 | Tuesday |

(3): Compulsory Requirements (12 Hours Credit)

| Module No. | Module Name | Credit Hours | Start | End | Day |
|------------|--|--------------|------------|-----------|----------|
| CS201 | Ethical Hacking and Testing | 3 | 21/10/2021 | 17/3/2022 | Thursday |
| CS202 | Operational Security for Critical Infrastructure | 3 | 21/10/2021 | 17/3/2022 | Thursday |
| CS203 | Advanced Hacking Techniques | 3 | 19/3/2022 | 16/7/2022 | Saturday |
| CS204 | Conducting Penetration and Security Tests | 3 | 22/3/2022 | 19/7/2022 | Tuesday |

(4): Supplementary Requirements (9 Hours Credit)

| Module No. | Module Name | Credit Hours | Start | End | Day |
|------------|---|--------------|-----------|-----------|----------|
| CS301 | Security operation center analyst | 3 | 22/3/2022 | 19/7/2022 | Tuesday |
| CS302 | Cybersecurity Management | 3 | 24/3/2022 | 21/7/2022 | Thursday |
| CS303 | Threat Intelligence & Incident Response | 3 | 24/3/2022 | 21/7/2022 | Thursday |

2.3 Modules Availability

The modules described above are those modules we expect to offer in the coming year. However, modules may be cancelled if they are chosen by too few students or for other necessary reasons. The portfolio of modules is reviewed every year and the availability of a particular module in the coming year is not a guarantee of availability in subsequent years.

2.4 Module Choices

You may choose a module if you have already taken all its prerequisite modules and your personal tutor must supervise this choice. An initial choice is made before or at Departmental Registration.

3. TEACHING, LEARNING AND ASSESSMENT

3.1 Work and Attendance

The University regulations governing the Work and Attendance of students are given in the Student Guide. Full attendance is required at all lectures, laboratories, and any tutorials, which may be scheduled. Completed laboratory work should be handed in on time. Attendance at laboratories and at many lectures is monitored and attendance registers kept. Please note that the expectation is that you will be required to undertake approximately thirty-six hours per week of study i.e. an average of two hours' private study will be required for every scheduled hour of lectures, laboratories etc. and some of you may require much more time than this. Being a full-time student means that your attendance is mandatory and absence for holidays is not permitted in term-time. The experience of the Department confirms that lack of attendance leads to study problems and if you have problems you should consult your subject tutors or personal tutor. In addition, failure to attend can result ultimately in refusal by the University to allow you to sit in the degree examinations. The duty of the lecturer is to keep continuous review of the work and attendance of the students with whom he/she is concerned. If the rate of your absences in a module is greater than 15% (or 20% for

3.2 Assessment

3.2.1 Examinations

In each semester, there are two 1-hour mid-term exams and one final 2-hours exam (at the end of the semester). For the mid-term exams, the lecturer returns to you, after one week of the examination time, your corrected answer sheet marked with some feedback for you to check. Whereas the final exam is an unseen exam and you can obtain your marks from the Admission and Registration Office or directly from the University web site at most after hours of the examination time.

At the end of each semester, the timetable of the final exam of the next semester is set by the Admission and Registration Office to help and guide you in choosing your modules for the next semester. The two mid-term exams are set by the Department and the syllabus of each module contains their timetable. The lecturer of the module will also inform you about this timetable in the first lecture of the semester.

For the research project (2) module, you should submit your final project report to the Department in the fourteenth week of the semester. In the fifteenth week, a committee will assess your project work, report, and presentation.

3.2.2 Role of Internal and External Examiners

For each module, the Department assigns a module coordinator and an internal examiner who is one of the senior staff members. If many lecturers teach the same module concurrently, they should suggest exam questions (for the first, second and final exams) and run the same exam for all sections. The main coordinator of the module will collect these questions from lecturers and select some of them to be in the exam paper. The internal examiner moderates the exam paper.

On the other hand, external examiners validate the standard of degree program. The external examiners are expected to look at the question papers, inspect a selection of scripts and project reports (particularly those on borderlines). They supply an assessment report to the Department.

3.2.3 Criteria for Assessing Examination Work

First class (90 – 100 marks) : First class answers demonstrate depth of knowledge or problem solving skills, which is beyond that expected from a careful and conscientious understanding of the lecture material. Answers will show that you

- have a comprehensive knowledge of a topic (often beyond that covered directly in the program) with an absence of misunderstandings;

- are able to apply critical analysis and evaluation;
- can solve unfamiliar problems not drawn directly from lecture material and can adjust problem solving procedures as appropriate to the problem;
- can set out reasoning and explanation in a logical, incisive and literate style.

Upper Second Class (80 – 89 marks): Upper second-class answers provide a clear impression of competence and show that you

- have a good knowledge base and understanding of all the principal subject matter in the program;
- can solve familiar problems with ease and can make progress towards the solution of unfamiliar problems;
- can set out reasoning and explanation in a clear and coherent manner.

Lower Second Class (70 – 79 marks): Lower second-class answers will address a reasonable part of the question with reasonable competence but may be partially incomplete or incorrect. The answer will provide evidence that you

- have a satisfactory knowledge and understanding of the principal subject matter of the program but limited to lecture material and with some errors and omissions;
- can solve familiar problems through application of standard procedures;
- can set out reasoning and explanation which, whilst lacking in directness and clarity of presentation can nevertheless be followed and readily understood.

Third Class (60 – 69 marks): Third class answers will demonstrate some relevant knowledge but may fail to answer the question directly and/or contain significant omissions or incorrect material. Nevertheless, the answer will provide evidence that you

- have some basic knowledge and a limited understanding of the key aspects of the lecture material;
- can attempt to solve familiar problems albeit inefficiently and with limited success.

Pass (50 – 59 marks). Answers in this category represent the very minimum acceptable standard. Such answers will contain very little appropriate material, major omissions and will be poorly presented lacking in any coherent argument or understanding. However the answer will suggest that you

- have some familiarity with the general subject area;
- whilst unable to solve problems, can at least formulate a problem from information given in a sensible manner.

3.2.4 Appeal Procedures

If you have good reason to question a mark you have been given (in midterm exams or in coursework), you should in the first instance approach the module lecturer. If the problem is not solved, you must submit it to your primary tutor. He/she will find the appropriate solution with administrative structures.

Problems with final examinations are resolved by submitting complaints or appeals in writing (within three days of the announcement of examination results) to the Department. Such requests are forwarded to the Examination Committee of the Faculty. The Department and the examination committee will consider these cases and check if there is any mistake in the summation of the marks and so on.

3.2.5 Unfair Practices

The University treats attempting to cheat in examinations severely. The penalty is usually more severe than a zero in the paper concerned. More than one student were dismissed from the University because of this. Plagiarism, or copying of course or lab work, is also a serious academic offence as explained in the University guidelines. In Computer Science Department these guidelines apply also to laboratory exercises.

3.2.6 Department Guidelines on Plagiarism

1. Coursework, laboratory exercises, reports, and essays submitted for assessment must be your own work, unless in the case of group projects a joint effort is expected and is indicated as such.
2. Unacknowledged direct copying from the work of another person, or the close paraphrasing of somebody else's work, is called plagiarism and is a serious offence, equated with cheating in examinations. This applies to copying both from other students' work and from published sources such as books, reports or journal articles.
3. Use of quotations or data from the work of others is entirely acceptable, and is often very valuable provided that the source of the quotation or data is given. Failure to provide a source or put quotation marks around material that is taken from elsewhere gives the appearance that the comments are ostensibly your own. When quoting word-for-word from the work of another person quotation marks or indenting (setting the quotation in from the margin) must be used and the source of the quoted material must be acknowledged.
4. Paraphrasing, when the original statement is still identifiable and has no acknowledgement, is plagiarism. A close paraphrase of another person's work must have an acknowledgement to the source. It is not acceptable for you to put together unacknowledged passages from the same or from different sources linking these together with a few words or sentences of your own and changing a few words from the original text: this is regarded as over-dependence on other sources, which is a form of plagiarism.
5. Direct quotations from an earlier piece of your own work, if not attributed, suggest that your work is original, when in fact it is not. The direct copying of one's own writings qualifies as plagiarism if the fact that the work has been or is to be presented elsewhere is not acknowledged.
6. Sources of quotations used should be listed in full in a bibliography at the end of your piece of work.
7. Plagiarism is a serious offence and will always result in imposition of a penalty. In deciding upon the penalty the Department will take into account factors such as the year of study, the extent and proportion of the work that has been plagiarized, and the apparent intent of the student. The penalties that can be imposed range from a minimum of a zero mark for the work (without allowing resubmission) through caution to disciplinary measures (such as suspension or expulsion).

3.3 Assessment Regulations

Most modules have some continuous assessment, such as assignments, essays, tutorials, laboratory exercises, seminars, and examinations. Assignments and any coursework must be submitted by the due dates and any submission after these dates will not be assessed. The proportions of coursework and examination are set out in the detailed syllabus for each module.

The examination and continuous assessment marks are combined to form a single mark out of 100 for each module. This mark is divided as follows: 60% of the total mark is given for two 1-hour midterm exams, coursework and/or seminars, projects, or essays, and 40% for the final exam that may be a written exam only or a written exam plus final laboratory exam (if applicable), final small

project, or seminar presentation. The 40% of the final exam is from the University regulations. The minimum pass mark is 50% for any module.

When you do not sit for the final exam without any excuse, you will either get the "University zero" (i.e. 35%) if your collected mark during the term was less than or equal 35%. Otherwise, you will retain your collected mark. If it is above (50%) then you are passed, otherwise, you have to re-enrol in this module and study it again.

On the other hand, if you have a certified excuse approved by the lecturer, the Department Head, and the Faculty Dean, then you can submit a request for "incomplete" that lets you sit for the exam, which is normally held at the first two weeks of the semester that follows.

4. STUDENT PROGRESSION

4.1 Progression

To pass the degree, you need to successfully complete 45 modules of different requirements; University, Faculty, Department, and supportive. The pass mark of any module is 50%. Your progress in the programme is measured according to the number of credit hours that you have successfully completed. The level (year) in which you are in depends on that number of credit hours. Another thing which is vital for your assessment and progression is the accumulative average that should be at least 60% in each semester. Consequences of unsatisfactory progress may include:

- Failure to progress to the next year,
- Failing to graduate,
- dismissing from the programme

If you failed in some modules, you cannot be considered in the next level. However, this does not prevent you from taking modules of the next level as long as you have taken their prerequisites.

Failing in a compulsory module means that you have to register on this module in the next semester. This can be repeated three times until you pass the module. If you failed to pass the module in the third time, then you have a choice to take an alternative to it only if you are in the graduation semester. However, if the module that you failed to get 50% was an elective module, then either you register on the same module in the next semester or take another elective to substitute it.

You have to pay attention to your accumulative average that should be not less than 60%. You will be warned if you could not obtain the 60% in each semester. In this case, you are encouraged to repeat studying those modules with low marks in order to increase your accumulated averages. Note that, repeating modules may delay your graduation so you may graduate in more than four years. The maximum allowed period for you to stay in the University is seven years. However, you will be dismissed from the programme if this average is not achieved in the third attempt.

You can graduate and pass the degree if you have successfully completed all Degree requirements and your accumulated average is at least 60%. Failing to get average of at least 60% in the graduation semester means that you could not be graduated and you have to register in the next semester to repeat some modules with low marks in order to achieve the required average.

The average is graded as follows:

| | |
|-----------|-----------|
| 84%- 100% | Excellent |
| 76%-<84% | Very good |
| 68%-<76% | Good |
| 60%-<68% | Fair |

4.2 Change, Interrupt, Withdraw, and Transfer from the Programme

4.2.1 Changing Your Choice of Modules

You can change your choice of modules after obtaining your supervisor approval.

4.2.2 Interruption of Degree Programme

Any interruption (taking at most 1 Semester) of your degree programme requires special permission from the Faculty. Regulations state that a Diploma degree is a continuous one-year period of study. Permission will only be granted if satisfactory reasons are given. A written case with supporting evidence must be presented to the Faculty. Reasons might include prolonged illness. Consult your tutor for advice.

4.2.3 Withdrawal from Modules

Withdrawal from a module will result of losing its fees. If you are contemplating withdrawing from a module, please discuss the situation with your personal tutor at the earliest opportunity. You should follow the following University regulations in this context:

- You can withdraw a module at most during the thirteenth week of the first or second semester and at most during the seventh week of the summer semester.
- The minimal number of modules (which is 9) required in each semester should be followed.

5. Program Price

630 JOD/Full Program –

78 JOD/Month