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**Master in Information Security**

**Target Date of Implementation: 1st Term, AY 2020-2021**

**Introduction**

This document presents the Master in Information Security program of the College of Computer Studies (CCS), De La Salle University to be offered starting academic year 2020-2021. The program has taken into primary consideration the ACM Curriculum Guidelines for Post-Secondary Degree Programs in Cybersecurity and the US National Institute of Standards and Technology (NIST) National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework.

The program is a 4-term professionally-geared multidisciplinary program with a total of 25 academic units focusing on courses under various domains of information security.

**Feasibility Study to Offer Master in Information Security**

The constant evolution of computing technology has allowed information to be ubiquitous in people’s daily lives to enhance productivity. With this, information security has become an essential component in different aspects of society to ensure that the confidentiality, integrity, and availability of information is appropriately protected.

The increasing number of security breaches affecting individuals and organizations in recent years both drive the demand for information security professionals. According to Kasperksy Labs’ Security Bulletin, approximately 30.01% of user computers were subjected to malware attacks and online attacks numbered at least 1.8 billion in 2018 alone[[1]](#footnote-1).

The 2018 (ISC)2 Cybersecurity Workforce Study reports that the workforce gap in cybersecurity skills has been growing worldwide, leaving organizations highly vulnerable. The workforce gap is at close to 3 million across the world with job openings projected to reach 5 million by 2021[[2]](#footnote-2). The Asia-Pacific region in which the Philippines is part of, experiences the greatest shortage of such professionals at around 2.15 million[[3]](#footnote-3) according to the same report.

The Philippine government has recognized the rapid growth of dependency on technology by various aspects of society, and the importance of protecting the critical ICT infrastructures and information assets of the country. A study by Frost & Sullivan commissioned by Microsoft shows that the Philippines faces a potential economic loss of USD 3.5 billion due to cybersecurity incidents. According to the study, 18% of the Philippine organizations included in the survey have experienced a cybersecurity incident; and 34% are uncertain if they have been breached or not as they have not performed a proper data breach assessment[[4]](#footnote-4).

Through the Department of Information and Communication Technology (DICT), the National Cybersecurity Plan was established in May 2017 “to institutionalize the implementation of information security governance and risk management following global standards”[[5]](#footnote-5). The primary goals of the Plan are the continuous operation of the nation’s critical infostructures, implementation of measures that enhance resiliency to cyber attacks, effective coordination with law enforcements, and the education of Philippine society on cybersecurity.

With these goals in mind, the DICT, through its Cybersecurity Bureau, has reached out to academic institutions in the country to push for the establishment of degree programs in information security in order to train professionals and address the skills gap in the country. At present only one institution in the country, Holy Angel University of Angeles, Pampanga offers a professional graduate program in cybersecurity.

De La Salle University stands to gain by offering such a program to IT practitioners and possible career shifters working in both government in private organizations who may have some working experience but no formal training. A degree program that is flexible enough to allow them to finish in 4 terms is desirable in order to quickly contribute to addressing the demand for security professionals in the country.

**Rationale and Objectives of the Program**

The need for security professionals in the various industries is projected to continuously grow in tandem with the growth of security breaches all over the world. The strength of the College of Computer Studies is that it has already offered courses in information security for at least 10 years in both the bachelor and master levels. Faculty members have experience in developing courses and handling courses in various areas of security; while laboratories already have existing infrastructure to support delivery of such courses. As such, these can be leveraged by the De La Salle University to offer the Master in Information Security program immediately.

The program aims to prepare learners to be professionals that are capable of taking on various information security roles through sufficient coverage of both theory and application in the different domains of information security. It incorporates recommendations from the ACM Curriculum Guidelines for Post-Secondary Degree Programs in Cybersecurity and the NIST National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework.

Learners begin with an overview of information security and its fundamental principles and would later progress to applying secure design principles to critical IT infrastructure, assessing the security posture of IT infrastructure, responding to and analyzing security breaches, and finally performing security risk assessment and applying security controls in accordance with information security program policies and governing laws.

The uniqueness of the program stems from its flexible curriculum with the following features:

* A modular IT foundations course that bridges the technical skills of potential career shifters to the advanced courses in the curriculum
* Blended learning format to allow flexibility for working professionals to undergo the program
* Courses aligned with known industry certifications, which may also be taken as technical training without necessarily completing the entire program
* Partnership with industry for mentoring of students under the program

**Graduation Requirements**

* 1. Completion of all required academic courses.
	2. Completion of two (2) major integrative projects
	3. Settlement of all financial and other obligations to the University

**Sample Schedule of Tuition and Other Fees**

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**DLSU Graduate School Fees Table for Term 1, AY 2019-2020.**

Source: http://enroll.dlsu.edu.ph/dlsu/view\_fees\_table

1. Kaspersky Security Bulletin 2018 [↑](#footnote-ref-1)
2. Mike Perkowski (2019) Tackling the Cybersecurity Skills Gap: How Universities and Academies Are Doing It [↑](#footnote-ref-2)
3. (ISC)2 Cybersecurity Workforce Study, 2018 [↑](#footnote-ref-3)
4. Microsoft Philippines – Cybersecurity Threats to Cost Organizations in the Philippines $3.5 Billion in Economic Loses [↑](#footnote-ref-4)
5. 2022 National Cybersecurity Plan [↑](#footnote-ref-5)