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licence master professionnel en protection informatique

LMPI - N°573901-EPP-1-2016-1-IT-EPPKA2-CBHE-JP
"Licence, Master professionnels pour le développement, l'administration, la gestion, la protection des systèmes et réseaux informatiques dans les entreprises en Moldavie, au Kazakhstan, au Vietnam »

Accreditation file

	Licence Pro	Master
Ho Chi Minh City University of Technology	non	création
Hanoi Agriculture	création	rénové
Hanoi Science et technology	rénové	rénové

rentrée 1ere session étudiants: sep2019

Grade: Mention:	*Master* **Master of Engineering**	Domaine:	**Computer Science, major in Cyber Security**

Université:	*HCMUT*	**University Chair:**	Pham Tran Vu
Date de conception:	19/10/2018		

Author:	*Pham Tran Vu* *Truong Tuan Anh* *Nguyen An Khuong* *Nguyen Le Duy Lai*		

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PROTOCOL OF PROJECT DOCUMENT VALIDATION

PROCES VERBAL DE VALIDATION DE DOCUMENT DU PROJET

Work Package/lot	3
Activity/Activité	3.3
Name of the activity/ Nom de l'activité	Les programmes et cours des licence et master et 6 dossiers de demandes d'accréditation.
Name of the document/ nom du document:	Dossiers de demande d'accréditation (Vietnam)
Partner(s) concerne/partenaire(s) concerné(s)	P19, P20, P21
Referent EU University/université UE réferente	P06 University of Vigo
Person validating the document/personne qui valide le document	
Name/nom	Ana Fernández Vilas
Function/fonction	Professor. Local Coordinator at University of Vigo

Date: 14 juin 2019

Signature:

UNIVERSIDADE DE VIGO - 1990
RECTOR

Ana Fernández Vilas

I. Context of the degree

a) In which context you have a project to create the new curricula (aims, motifs…)
According to the Kaspersky Lab, nearly 64.2 million computer systems in Vietnam had been affected by security issues in 2011 and this caused a heavy loss of 22.7 million euros per month. Although there has been an increasing demand of human resources in the field of cyber security in Vietnam, there has no effective and quality training program in cyber security up to now. Consequently, creating and setting up a quality program in cyber security, especially in training high skilled worker, is essential in Vietnam today.
The project Erasmus+ CBHE LMPI is a joint project for the modernization of educational programs in Engineering (administration of computer networks and systems), especially in Moldova, Kazakhstan, and Vietnam. Through this project, Ho Chi Minh City University of Technology (HCMUT) will get support in finance, knowledge, and help from partners to improve the educational activities in the university. Technically, the main aim of this is to build up a new master program in cyber security for training skilled employees in security field in the south of Vietnam in particular and in Vietnam in general. The program should be designed to meet the demands and requirements of industrial companies/organizations as well as the trainees. At the end of this project, we expect a new master program in cyber security to be set up and run in HCMUT.

b) List the potential jobs covered by the new curriculum, refer to the official job classification
After completing the program, the student can work in any aspect of the cyber security in industry such as Security Solution Engineer, IT Security Specialist, Controls & Security Associate/Senior/Manager, Information Security Officer, Senior Cyber Security Developer, etc...

c) Indicate the predictions for the professional integration of young graduates
We expect about 70% of program students to obtain the program degree after 2 years. The remaining 30% of students is expected to finish the program in the next two years.
After obtaining the degree, the students can apply to the cyber security positions at industrial companies or research position at some universities/institutions/companies. They can also continue to study at higher level of degree at some universities around the world. According to the employment profile survey, there are many opportunities for students to get a job in cyber security in Vietnam because of the number of companies and their needs in cyber security nowadays.

d) Indicate the origin of the students admitted, their number, and the methods of recruitment
The prospective students must hold a Bachelor degree (4y) in Computer Science & Computer Engineering
Limitation: 15-30 students for each year
Recruitment; the prospective students must submit a copy of their degree and related documents. Then, they will take a public entrance exam and must pass such exam to be recognized as the program students.

(e) Indicate whether the possibility of access to adult learners as part of lifelong learning is offered
Yes, there is always the possibility of joining the program for the learners at any age. Basically, they must hold a bachelor degree in similar field as above and pass the entrance exam.

(f) Indicate the possible pursuit of studies

Yes, the students holding a master of cyber security degree can continue to register a higher level of study at the same university or at other universities around the world. In order to continue to study at higher level, the students must satisfy the entrance requirements of the university (e.g, hold the degree and pass an exam)

g) Indicate the modalities of composition of differentiated paths if necessary

Currently, the program does not allow for different paths/tracks/minors/specializations,...

II. General description of the curriculum

II.1. Description of training outcomes:
(THIS IS THE SAME AS WHAT YOU WROTE IN FICHE METIER (JOB DESCRIPTION PROFILE))

Training outcomes	Description
Disciplinary knowledge	Data&System Security and Security Management (Cyber Security)
General Competences	GC1. The ability to analyze systems, mechanisms and procedures related to protection of information entities and objects GC2. Problem solving ability, design ability GC3. Critical thinking GC4. Creativity and Reactivity GC5. Ability to apply theoretical knowledge to practice GC6. Ability for self-study GC7. Ability to work in a diversity group and in an international context (teamwork) GC8. Ability to project organization and planning GC9. Time management skill GC10. Representation skill: Ability to represent, illustrate, convince GC11. Skill in conducting trend analysis.

II.2. Decomposition of curricula in semesters

Fr/ bachelor=3ans (180ECTS) – Master=2 ans (120 ECTS)
VN : bachelor=4 ans, Master = 2 ans
1 year of studies=60 ECTS

Year	Semester	Title of semester (*)	EU Educational units
Year1	S1	Fundamental Courses	UE1. Advanced Philosophy (6 ECTS) UE2. Advanced Database Systems (6 ECTS) UE3. Advanced Computer Architecture (6 ECTS) UE4. Advanced Computer Network (6 ECTS) UE5. Principles of Data Science (6 ECTS)
	S2	Mandatory Courses	UE6. Laws, Policies and Standards in Cyber-Security (6 ECTS)

			UE7. Applied Cryptography (6 ECTS) UE8. Database Security (6 ECTS) UE9. Network Security (6 ECTS) UE10. Computer Network Security Assessment (6 ECTS)
Year 2	S3	Optional Courses NOTE: Optional courses opened on S3 and S4 will be based on the number of students registering to the courses	UE11. Leadership Management (6 ECTS) UE12. Innovation and Entrepreneurship (6 ECTS) Selective course** (6 ECTS) Selective course** (6 ECTS) Selective course** (6 ECTS) Thesis proposal (0 ECTS)
	S4	Thesis	Master Thesis (20 ECTS) Selective course** (6 ECTS) Selective course** (6 ECTS)

(*) General theme of the semester from a pedagogical point of view

(**) The list of **Selective courses** is as follows:
UE13. Malware Analysis (6 ECTS)
UE14. Digital Forensics (6 ECTS)
UE15. Blockchain Technology and Applications (6 ECTS)
UE16. Enterprise Systems Security (6 ECTS)
UE17. Biometric Security (6 ECTS)
UE18. Mobile Systems Security (6 ECTS)
UE19. Management of Information Security (6 ECTS)
UE20. Security in Modern Computing Platforms (6 ECTS)

II.3 Description of EU (educational units)

EU semester 1/2/3 (1 semester = 30 ECTS)

Please refer to attached Unit form of each educational unit for the description of the course.

Legend:
TL : Travaux de laboratoire ou travaux pratiques dirigés/ ***Laboratory work or supervised practical work***
TP : travaux pratiques / ***practical work in small groups***
W pers : travail personnel (en bibliothèque, à la maison, en stage, etc.)/ ***personal work (library, home, internship, etc.)***

II.3. Tableau de mise en corrélation entre compétences et unités d'enseignement:

We provide the list of competences related to each educational unit in the attached unit form.

II.4. The final dissertation

a) What will be asked from students for the dissertation (When ? Number of pages ? relations avec les contenus de la formation.
At the end of the third semester, students are freely to choose advisor(s) and topic (after discussing with the advisors) for their dissertation. There is no limitation in the length of a master-level dissertation.

In order to do the final thesis, students are required to finish at least 82 ECTS and pass all mandatory courses.

b) Describe the role of the two types of tutors, the university tutor, the company tutor
The students are freely to choose advisor(s) from the university and/or industrial section. However, all the duties are the responsibility of the academic advisor (i.e., there is at least an advisor from the university and the academic advisor is the main advisor). Advisor(s) in the company is optional and may be secondary or complementary advisors, or co-advisors.
- The role of the academic advisor(s): such advisors are the main advisor. They provide fundamental knowledges, administrative duties, support research work/papers, ...
- The role of the company advisor(s): such advisors are co-advisor. They provide the technical support and advice for the dissertation.

c) Describe the expected results of the final dissertation
The final dissertation is expected to be an original, unpublished and significant contribution to the field of digital security and cybersecurity, in any of its possible domains of application (industry, manufacturing, administration, public services, societal services, baseline & fundamental technologies, applied products and services, etc.)

d) Describe the modalities of defense of final dissertation
The dissertation is publicity defended in front of a committee or jury formed by 5 members from different universities (45 minutes, including debate and questions with the committee members). The jury/committee does not include the thesis advisor(s). Before the publicity defence, the dissertation is reviewed by an internal reviewer and an external reviewer. Students must submit a written report to the jury, after approval by the advisor(s) and the two reviewers. Publication of research papers in conferences or journals is a plus.

e) Indicate the timetable for the realization of the final dissertation
Students should prepare their dissertation from the first semester of the second year. The first semester for choosing and defining a topic with the advisors and acquiring the background, the second semester for doing the technical work, the experimental work and prepare the report.
Students are notified the time for submission of the final dissertation at least 15 days prior to the deadline (usually the time for submission of the final dissertation is at the end of the semester S4). The time for presenting the dissertation in front of the committee is usually 15-30 days after the submission deadline and will be notified in advance.

f) Indicate the number of ECTS granted to the final dissertation

20 ECTS is assigned to a successful final dissertation

II.5. Internship in company

Not required. However, The students can deal with the supervisors (or the dissertation supervisors requires the students to join an internship) and have an internship to a company during their thesis under the supervision of their thesis co-supervisors (company advisors). The internship is the agreement between the supervisors and students. Internship does not get any credit.

II.6. Internship in a company abroad

Similar to the Internship to domestic company, the internship to a company abroad is not mandatory.

II.7. Mobility to foreign companies (if any)

Not required

III Modalities for the control of knowledge

a) For each EU, indicate the methods of checking knowledge

- There are several options for the method of evaluation: (i) two exams (mid-term and final exams); (ii) Exercises, presentation and final exam; report and final exam, etc, ...
- Form of examination: written/oral/presentation/report/defence/programing, etc...
- Duration of the control: 50-70 minutes for mid-term exams; 70-120 minutes for final exams
- Test coefficient (if applicable): it depends on the method of evaluation, for example, 40-60 for mid-term-final exams; 30-20-50 for exercises-presentation-final exam, etc, ...
- Score: the maximum score is 10

b) Indicate the rules of obtaining a EU (UE)

- Rules for the allocation of EU: In order to finish a course, the students must pass the exams, exercises, presentations, ...
- Compensation rule between units (if applicable): The students must pass all mandatory and fundamental courses. For optional course, students can choose and finish some of courses from the list to get at least the number of credits required for optional courses
- Period of validity of a EU obtained (UE): During the training time of the master program
- Eliminary scores: No

IV Composition of pedagogical team

a) The general pedagogical responsible of the new curriculum

Name : *Tran Vu* First name : *Pham* Function : *Program Chair* University : *Ho Chi Minh City University of Technology (HCMUT), Vietnam*

b) Pedagogical responsibles by EU Educational units (Teachers by EU)

EU	Responsible of EU	University of attachment
2,7,8,16,18,19	Truong Tuan Anh	HCMUT
4,9,11,12	Pham Tran Vu	HCMUT
5,7,15	Nguyen An Khuong	HCMUT
4,9,10,11,12,20	Thoai Nam	HCMUT
2,8,17,19	Dang Tran Khanh	HCMUT
2,13,17,18	Phan Trong Nhan	HCMUT
3,9,20	Pham Hoang Anh	HCMUT
3,16,20	Tran Ngoc Thinh	HCMUT
5,15	Huynh Tuong Nguyen	HCMUT
12,16	Le Lam Son	HCMUT
4,12,14	Tran Minh Quang	HCMUT
2,14	Vo Thi Ngoc Chau	HCMUT
3,10	Le Trong Nhan	HCMUT
5,15	Tran Tuan Anh	HCMUT
12,17	Nguyen Thanh Binh	HCMUT
5,14	Le Thanh Sach	HCMUT
4,9,10	Nguyen Le Duy Lai	HCMUT
1	Invited Lecturers	
6	Invited Lecturers	
11	Invited Lecturers	

c) Teachers involved in the curriculum (=renovateurs)

Name	University	Disciplines taught	Number of hours of intervention	Concerned EU
Thoai Nam	HCMUT		50	4,9,10,11,12,20
Pham Tran Vu	HCMUT		100	4,9,11,12
Truong Tuan Anh	HCMUT		150	2,7,8,16,18,19
Nguyen An Khuong	HCMUT		100	5,7,15
Dang Tran Khanh	HCMUT		50	2,8,17,19

Phan Trong Nhan	HCMUT		50	2,13,17,18
Tran Ngoc Thinh	HCMUT		30	3,16,20

d) Professionals involved in the curriculum
(=professionals animating a training course/a lecture on a professional theme)

This program does not include any external professional.

Name	Company	Disciplines taught	Number of hours of intervention	Concerned EU

NB: the number of hours of intervention of professionals must be 30% of the total hours.

V Professional Insertion

a) Indicate the methods used to support the professional integration of young graduates

The university has a center (Student Services and Career Center) that supports students in seeking jobs during their study and after graduation. The students should actively contact the center when they need support. Additionally, many job advertisements are also shown on the website of the university.

When companies/organizations have job calls, they can contact the center through calls/emails, … then provide the details of job calls. The center then helps the companies to broadcast the call to students through the center website and university website.

More information can be found at http://bktphcm.net

(b) Indicate the composition and role of the employment office of the university

The center has 8 main employees including:

- 01 director
- 01 Chief accountant officer
- 01 Chief of secretariat
- 05 specialists

More information can be found at http://bktphcm.net

VI The Diploma Supplement

Educational unit forms are attached.

Annex 1 : Partnership with training institutions

1.1. Universities implied in the training

The program does not relate to any other university.

Universities	Role in the training course

Join contracts.

1.2. Other training institutions implied

The program does not relate to any other training institution.

Institution	Role in the training course

Join contracts.

Annex 2 : Cooperation with companies

2.1. Companies implied in the training

There is no cooperation with industrial companies inside this program.

Company	Role in the training course

Join contracts.

2.2. Other companies supporting the training course

There is no support from industrial companies in this program.

Companies	Adress

Join support letter

Annexe 3 : Job description profile (fiche métier)

Join job description profiles which resulted from the survey