Homework # 3

01286233 Web Programming

Software Engineering Program,

Department of Computer Engineering,

School of Engineering, KMITL

By

65011328 Kasitphoom Thowongs

Result:

B.Eng. in Software Engineering Program

The **B.Eng. in Software Engineering Program** is a 4-year undergraduate program aiming at producing graduates who are capable of working confidently in the international software industry as well as pursuing postgraduate study and research in leading universities worldwide. The curriculum of the program is designed in accordance with the recent ACM/IEEE guideline for undergraduate curriculum in software engineering.

Curriculum Overview - Study Plans

<table>
<tr><th>Years 1 and 2 @ KMITL</th><th colspan="3">Years 3 and 4 - Track 1 @ KMITL</th><th>Years 3 and 4 - Track 2 @ Glasgow</th></tr>
<tr><td rowspan="2">• Mathematics
• Programming (Python, Rust, C++)
• Basics of Computer Hardware
• Computer Science Fundamentals
• Introduction to Software Engineering
• General Education Courses</td><td colspan="3">• Further Computer Science topics
• Software Engineering topics
• Software Projects
• Summer internship between Year 2 and Year 3
<u>Choose one of these specializations</u></td><td rowspan="2">University of Glasgow
• Study Years 3 & 4 in SE program at School of Computing Science, University of Glasgow
• Summer internship between Year 3 and Year 4
• Obtain 2 degrees:
• B.Eng. in Software Engineering from KMITL
• BSc Software Engineering from U. of Glasgow</td></tr>
<tr><td>Metaverse SE</td><td>Industrial IoT</td><td>Artificial Intelligence</td></tr>
<tr><td></td><td>• Web Service Development and Service-Oriented Architecture
• Computer Graphics and Mixed Reality
• Advanced Database Systems
• Distributed Computing</td><td>• Web Service Development and Service-Oriented Architecture
• Real-Time Embedded System Design and Development
• Industrial IoT Networks and Communications
• Cyber-Physical Systems and Industry 4.0</td><td>• Machine Learning
• AI Programming
• Data Science and Data Analytics
• Knowledge Representation and Reasoning
• Deep Learning</td><td></td></tr>
</table>

Year 1 and Year 2

In the first two years, the students will study basic courses in mathematics, computer science, and software engineering and develop their programming skills using various programming languages (including Python, C, C++, Java, etc.). Also, the students will be trained to communicate correctly and effectively. At the end of Year 2, every student is required to undertake an internship in a software company for 8 - 10 weeks. All the courses in the first two years will be held at the International College in the Bangkok Campus of KMITL.

Year 3 and Year 4(KMITL)

In Year 3 and Year 4, the students will learn advanced topics in software engineering and important software development methodologies that are used in practice. The students will have opportunities to the apply the knowledge and skills they have acquired to conduct a team software project in Year 3 and a one-year research project in Year 4. Students entering Year 3 are required to take one of the following specializations:
1. **Metaverse Software Engineering** - Specializing inlarge and complex software for enterprises and digital transformation.
2. **Industrial Internet of Things** - Specializing in the Internet of Things, including embedded and mobile systems.
3. **Artificial Intelligence** - Specializing in applications of artificial intelligence and data science, including machine learning and Big Data.
The study plans for these three specializations differ in some required courses. Also the students are recommended to toe work on their senior projects that utilize the knowledge of their respective specializations.

Year 3 and Year 4(KMITL)

The students joining the KMITL-Glasgow Double-DegreeProgram will take courses in Years 3 and 4 in the Software Engineering program at the Schoolof Computing Science, University of Glasgow.

Curriculum Courses

Year 1

Semester 1	Semester 2
01006710 : Introduction to Calculus	01006717 : Differential Equations
01286111 : Circuits and Electronics	01006718 : Discrete Mathematics
01286120 : Elementary Systems Programming	01286112 : Digital System Fundamentals
01286121 : Computer Programming	01286131 : Object-Oriented Programming
96641002 : Digital Intelligence Quotient	96641001 : Charm School
96642170 : Introduction to Logic	96641003 : Sports and Recreational Activities
	96644034 : Technical Writing

Year 2

Semester 1	Semester 2
01006719 : Probability and Statistics 1	01006716 : Linear Algebra
01286213 : Computer Architecture and Organization	01286223 : Computer Networks
01286222 : Data Structures and Algorithms	01286228 : Algorithm Design and Analysis
01286233 : **Web Programming**	01286232 : **Software Engineering Principles**
96644042 : Professional Communication and Presentation	01286241 : Database Systems
9664____ : General Education Elective	96644___ : General Education Elective in Language and Communication
	96644034 : Technical Writing

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