UTM UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF COMPUTING
UTM Johor Bahru

SECP1513 TECHNOLOGY AND INFORMATION SYSTEM

SESSION 2024/2025 SEMESTER 1 (SECTION 02)

ASSIGNMENT 3: ACADEMIC WRITING

TITLE : SKILLS IN UNIVERSITY AND INDUSTRY

Lecturer: Dr. Aryati Binti Bakri

Figure 1: Poster of "Industry Talk: Sharing Experience"

GROUP MEMBERS:

 Name: Damia Zafira Binti Nawawi Matric No: A24CS0241	 Name: Irdina Hannah Binti Misnun Matric No: A24CS0086	 Name: Mirza As-Siddiq Bin Tohari Matric No: A24CS0112
 Name: Teoh Xin Yee Matric No: A24CS0307	 Name: Toh Shee Thong Matric No: A24CS0309	

DESCRIPTION OF THE SPEAKER EXPERIENCE

Mr. Mohd Hakimi Iqmall pursued a Diploma in Computer Science (Multimedia) and a Bachelor's degree in Computer Science (Graphics and Multimedia). In 2017, he completed an internship at ME-Tech Solution Sdn.Bhd. in Cyberjaya, where he was responsible for developing a ship simulator for the Tentera Laut Diraja Malaysia (TLDM), as well as 3D modeling and animation. Following his graduation in 2018, Mr. Iqmall joined Okakichi Sdn. Bhd. as a programmer, becoming the first Muslim employee at the company. He served in this role until 2019.

From 2019 to 2021, Mr. Iqmall worked with Universiti Teknologi Malaysia (UTM) Research Computing, specializing in system development. During his tenure as a system programmer, he successfully developed systems such as RADIS 4.0 and ICESys within one year and eleven months. In July 2021, he assumed the position of Information Technology Officer at UTMDigital. As a project manager and system analyst, his responsibilities included managing and analyzing systems such as the Welfare Service System, Clinic Panel System, Kenaikan Gaji Tahunan (KGT), Payroll 2.0, Sistem Saraan Perkhidmatan Awam (SSPA) System, and the Integrity System.

Mr. Nik Mohd Habibullah graduated with a degree in Computer Science from Universiti Teknologi Malaysia (UTM) in 2005. During his final year , he collaborated with UTM’s library and graphic team to create a montage video for UTM’s digital library. He then completed his internship at UTM library. In 2011, he secured the position of manager at NI Solution, a company that provided services such as web designing (CMS), mobile apps development, computer repair and maintenance, software and hardware supply, server and network solution, system development, and CCTV and security device .Subsequently, he served as Chief Executive Officer (CEO) of Micro Semiconductor Sdn. Bhd., where he oversaw the production of Malaysia’s first locally made Internet of Things (IoT) product. In March 2020, Mr. Nik Habibullah began his role as Chief Administrative Officer at GetMe Hired, where he supervises the daily operations and is responsible for the overall performance of the business. Currently, he also serves as a System Analyst and Co-Founder at GetMe Hired. He attributes his entrepreneurial success to his active involvement during his time in college.

BASIC SKILLS REQUIRED FOR COMPUTER SCIENCE

In the university setting, technical skills are emphasized, including proficiency in programming languages such as Python and C++, version control systems like GitHub, and development tools such as Visual Studio Code. A solid understanding of database structures, debugging systems, security protocols, and system frameworks is also critical. Lee, Trauth, and Farwell (1995) highlighted several key technical skills essential for entry-level IT workers, which are summarized in Table 5: Skills Categories. For instance, skills such as awareness of IT technology trends, operating systems and telecommunications/networking were ranked as particularly important. These technical foundations are complemented by analytical and logical problem-solving abilities.

Skills Categories	Managers	Faculty
Technical Skills		
Awareness of IT technology trends	4.04	4.14
Operating systems	3.99	3.64
Telecommunications/Networking	3.90	3.96
Security	3.91	4.04
Hardware concepts	3.92	3.51
Database	3.92	4.14
Packaged software	3.82	3.54
Web development languages	3.85	3.90
Systems development life cycle methodologies	3.75	3.63
Programming languages	3.72	3.64
Average	**3.88**	**3.81**

Table 5: Skills Categories

Furthermore, management skills play a crucial role in academic preparation. These include effective communication, a thorough understanding of the Software Development Life Cycle (SDLC), testing and quality assurance practices, risk management, and comprehensive documentation and reporting. Leadership and team collaboration are also vital, as they foster the ability to guide projects and work cohesively in diverse teams.

According to Mr. Nik, a key skill needed in university is self-awareness and reflection. Students must develop the ability to understand their goals and strengths. He recommended using the website 16 Personalities to better understand their personality traits and determine whether they are more suited to roles like leadership or communication. Additionally, students should avoid limiting themselves to their degree and remain open to exploring diverse opportunities during their time in university. Based on Mr. Nik's experience, he worked in various roles after graduation, including web design, system development, and network-related positions. This highlights the importance of gaining diverse knowledge during university. He also recommended several useful tools for students to gain a competitive edge, such as Basecamp and Wrike for project management, Eclipse and PyCharm for system development. Furthermore, Mr. Nik stressed the need for competitive readiness by starting job applications and internships early. He advised students to begin applying for jobs in Year 3 and consider undertaking an additional internship during the semester break to improve their chances of securing a job after graduation.

SKILLS DEMANDED BY INDUSTRY

The industry, on the other hand, demands additional skills beyond technical expertise. Practical experience with cloud computing platforms like AWS and Azure, familiarity with machine learning tools, and understanding of big data processing are highly sought after. Soft skills, including effective communication, adaptability, and project management, were highlighted as critical for long-term career growth. Other than that, knowledge of the business domain is essential for success in the industry. Employers also value the ability to collaborate effectively with teams in non-technical departments. These skills help professionals contribute not only as technical experts but also as strategic partners in achieving business goals. (Mohd Adam Suhaimi, 2012)

According to Mr. Nik, the industry seeks individuals who possess not only strong technical skills but also well-rounded personal qualities. On the technical side, it is crucial that expertise in development, including algorithms, data structures, debugging and other programming skills. Furthermore, proficiency in tools like Visual Studio Code, Git also play a significant role in meeting industry demands. Moreover, soft skills are equally important as technical skills. For instance, effective communication skills help convey ideas clearly and listen actively, while problem-solving and critical thinking demonstrate adaptability and resourcefulness. Additionally, being able to write a strong resume, identify strengths, and address weaknesses is consequential. It's also important to approach job hunting strategically. Purging job titles and industries of red flags saves time and helps rookie’s choices stay true to their mission. Knowing the market pay range and settling on a pay out that reflects one’s role and experience is just as important to prevent issues with payroll.

REFLECTION : How will you be successful in computer science in the next four years?

DAMIA ZARIFA BINTI NAWAWI The goal of becoming a web designer involves the mastery of programming languages such as C++, Python, Java ,HTML and CSS. To achieve this objective, participation in programming-related activities and a focus on enhancing design skills are essential. Expanding knowledge beyond the primary field through the establishment of a small business is also considered beneficial for building connections that may prove advantageous in the future. Additionally, the development of soft skills, including communication, leadership, and time management, is emphasized to create a well-rounded profile and readiness for future opportunities.

IRDINA HANNAH BINTI MISNUN The industry talk has inspired an alignment of academic and personal development with the demands of the tech industry. Programming languages and emerging technologies such as Blockchain, Rust, and Go will be mastered over the next four years. Participation in hackathons will refine problem-solving skills, communication and teamwork will be enhanced through university projects, and workshops on leadership and project management will be attended. These efforts will contribute to building a comprehensive skill set for success in the competitive tech industry.

MIRZA AS-SIDDIQ BIN TOHARI A solid foundation in programming is important to quickly adapt with the frameworks utilized in the industry. Additionally, taking part in competitions such as hackathons can significantly enhance collaboration and problem-solving skills. Finally, improving soft skills is essential to foster effective communication with colleagues.

TEOH XIN YEE To become eligible data engineer, it is essential to develop a strong foundation in programming enabling problem-solving and developing systems by using different programming languages. Furthermore, grasping all database management skills, includes understanding database structure such as tables, indexes and so on. Besides that, soft skills like effective communication also play a significant role in becoming a successful data engineer.

TOH SHEE THONG As a Computer Science student, success over the next four years will be achieved through a strong commitment to learning and consistent effort. A solid foundation in programming, algorithms, data structures, and software development will be built through lectures and projects. By participating in coding competitions, problem-solving skills will be enhanced. Additionally, independent projects and online resources will ensure familiarity with emerging technologies such as AI and cloud computing. Other than that, a growth mindset, discipline, and a balance between academics and personal well-being will also be prioritized for overall success.

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