Professional Skills Matrix – Research Methods and Professional Practice – Michael Geiger

Competency	Essex Graduate	Skill	Skill Level	Evidence
Professional	**Literacy, Communication, Language Skills**	Express information effectively to technical and non-technical audiences	Proficient	Various modules (e.g. NISM, PDFCYL & IRM) of the cyber security course at the UoE have trained my way of expression and the adaptation to the audiences.
		Create documents to aid your communication (reports, diagrams, legal descriptions, plans, manuals and charts)	Proficient	The creation of supporting representations was an important aspect of presentations created within the framework of modules (THF, PDFCYL and RMPP). But these capabilities have also been expanded in reports (NISM and IRM). Statistical evaluation capabilities using spreadsheet programs have been expanded within the framework of the RMPP module.
	Commercial Awareness	Keep current with tools of the industry, as well as emerging technology	Proficient	Insights into the application of current industry tools, such as the penetration testing tools from Kali Linux, were gained in the NIMS module. In addition, possibilities and practices of micro services and the container visualization software Docker were acquired as part of the SSA module.
		Seek opportunities to improve and share knowledge of tools and technology that may improve productivity	Trained	Various communication platforms for technical developments relating to cyber security were encountered during the course of study. This includes IEEE and Red Hat.
		Participate in scientific and professional organisations	Aware	The first scientific papers relating to cyber security were created as part of the course at the UoE and serve as the basis for the planned Capstone Project. These competencies were built on previous university studies and scientific work in the fields of physics and geography.
		Emphasise quality, customer satisfaction and fair application of	Proficient	Deeper insights into customer satisfaction and correspondingly appropriate application of policies were obtained from a human perspective in the THM module and from a legal perspective in the PDFCYL module.

		policies.		
		Demonstrate familiriaty with codes of conduct for the Computing field.	Proficient	Various codes of conduct in the computing context were examined in depth. These include legal frameworks such as GDPR and UKRIO, as well as ethical principles such as the regulations of ACM and the UX designs.
	Subject understanding, research, critical thinking, time management	Critically analyse complex ideas in concepts in the field of Computer Science	Trained	Complex investigations into computer science concepts were carried out in technology-oriented modules such as SSD and SSA, but also in NISM.
		Recognise inconsistencies and gaps in information, and search for additional information when needed…	Proficient	The ability to find knowledge gaps in subject areas and to conduct research based on these was a central part of the scientific work in the physical and geographical area. The application of these competencies in the field of computer science was pursued in the RMPP but also in depth in the NIMS module.
		Explore complex real-world problems in a Computing context	Trained	A direct reference to real problems in the computing context was developed in the modules and the associated assessments NIMS, IRM, SSD, SSA, LCYS.
Legal and Ethical	**Ethical Awareness**	Comply with the letter and spirit of applicable laws	Proficient	The outstanding importance of laws was developed using the example of the importance of the GDPR and reinforced using analyzes of various case studies. On this basis, in addition to the legal consideration, ethical principles were also reflected in depth.
		Maintain privacy and confidentiality of company, co-worker and customer information	Trained	This principle was also highlighted in various modules based on the GDPR.
Social (inc. Teamwork)	**Cultural Awareness**	Act in the best interest of the community at large - Social (Community) Responsibility	Trained	In the THF and RMPP modules in particular, the consequence of responsibility to act in the interest of the general public was studied in depth.

	Teamwork, Leadership and Resilience, Time Management	Collaborate effectively in diverse teams to achieve team goals	Expert	Effective cooperation in diverse teams, even with problems from fluctuating team members, was trained in the international area in the NIMS, IRM, SSD and SSA modules. These were always with a successful outcome.
		Meeting team objectives using teamwork skills	Proficient	The ability to work in a team and active participation was demonstrated in various modules (NIMS, IRM, SSD and SSA). In particular, the ability to contribute one's own skills was proven here.
		Demonstrate skills in leadership and team building	Proficient	Team leadership skills were collected in private training seminars and consolidated and expanded through practical application in projects.
		Give and receive constructive feedback	Proficient	Constructive feedback was received throughout the course of the UoE's cyber security studies and within collaborative settings. Appropriate feedback has been provided where possible.
	Creativity, Entrepreneurial, Problem solving, Initiative, Decision Making	Create, discuss and deliver strategies for sustainability for all stakeholders (company, community and environment)	Trained	In the IRM module in particular, sustainability strategies for stakeholders were developed and discussed.
		Able to make a decision on a complex matter/scenario using multiple sources of information	Proficient	This capability has been especially enhanced in the NIMS, IRM and RMPP modules.
Technical (Data Science)	**IT and Digital, Numeracy**	*Technical skills relevant to your degree programme:*		
		SQL for database querying	Trained	Initial experience was gained in the LCYS module. Further development of skills was gained within the SSD module.
		Python Programming	Trained	Python programming skills were developed in the LCYS, SSD and SSA modules.

		Java	Aware	Fundamental knowledge in dealing with Java was acquired before the start of the course as part of a crash course.
		Python	Trained	The use of Python applications and their modification was trained as part of penetration testing. In addition, applications were developed as part of the SSD and SSA module.
		noSQL	Aware	General knowledge about noSQL databases was gained through own research.
		Scripting Language (Python)	Trained	Using the programming language Python was learned through CODIO exercises and textbooks.
		Statistical Language (R)	Proficient	The use of the statistical language was learned and consolidated as part of geography studies using RStudio.
		Gits - repository development and maintenance	Proficient	The creation, management and maintenance of gits was learned during the course of the modules of the cyber security study of the UoE.
		Use of conferenceing technologies and Moodle (VLE)	Proficient	A variety of conference technologies such as Webex, Zoom and Big Blue Button were used in seminars and team meetings and their possibilities were used extensively and thus learned.
		Use of Word Processing tools and Spreadsheets	Expert	Word processing tools, mainly Word Office, were used to create all assessments and thus in-depth skills were developed based on the previous level of knowledge. Spreadsheet programs were used as part of the RMPP module.
		Effective use of e-library resources	Expert	The effective use and application of e-library resources was central to the complete cyber security course at UoE.
Subject Application	**Global Citizen, Teamwork, Leadership, Emotional Intelligence**	Take into account other people's perspectives	Proficient	The consideration of other perspectives could be learned and proven especially in the context of numerous collaborative discussions.
		Work constructively with differences in viewpoints	Proficient	The constructive work and application of different points of view through collaborative discussions was also trained as a competence. In addition, the modules NIMS, THF, PDFCYL and RMPP have significantly shaped the ability to take different perspectives in the context of cyber security.
		Actively participate in a range of community activities as an informed	Proficient	A continuous contribution of one's own opinion in the context of various collaborative discussions and the sharing of one's own knowledge can be observed throughout the course of study.

		citizen		
	Decision Making, Initiative, Emotional Intelligence, Ethical Awareness	Develop, articulate and clarify your personal values and ethics	Proficient	A development of my own personal values and ethical values in relation to information technology was developed, consolidated and regularly reflected on during the course of my studies.

Adapted from BCS guidelines and Essex graduate

Skill Level Key

Aware	General understanding and basic knowledge
Trained	Able to apply knowledge, able to work independently under certain conditions
Proficient	Broad and in-depth knowledge, able to work independently with very little supervision
Expert	Seen as a subject matter expert, able to lead and train others.