

VIETNAM NATIONAL UNIVERSITY, HANOI
VNU UNIVERSITY OF ENGINEERING AND TECHNOLOGY
FACULTY OF ELECTRONICS AND TELECOMMUNICATIONS

THE PROGRAM OF BACHELOR
IN
ELECTRONICS AND COMMUNICATIONS ENGINEERING

SKILL MATRIX

2013

	ELT2028	ELT2030	INT2043	ELT2031	ELT2032	ELT2033	ELT2034	ELT2035	ELT2036	ELT2037	ELT2038	ELT3043	ELT3044	ELT3045	ELT3046	ELT3047	ELT3048	ELT3049	ELT3056	ELT3057	ELT3060	ELT3062	ELT3063	ELT3067	ELT3069	ELT3071	ELT3073	ELT3075	ELT3077	ELT3079	ELT4053	<i>Tổng</i>	Criterion level
1. Knowledge																																	
1.1. M1: General knowledge (VNU requirements)																											3/4						
1.2. M2: General engineering knowledge (UET requirements - Basic Sciences)																											3/4						
1.3. M3: Cross-field engineering knowledge (Information and Communication Technologies)																											3/4						
1.4. M4: Core ET fundamental knowledge																											3/4						
1.5. M5: Advanced ET fundamental knowledge, and non-ET supporting knowledge																											3/4						
1.6. M6: Projects and graduation thesis																											3/4						
2. Skills																																	
2.1. Specialized skills																																	
2.1.1. Professional skills (Design)																																	
																										45	4/4						
The Design Process			2	4			3			3	2	2	3	3			2	2	2	2		2	3	2	3	3	3	2	2	3	3	56	
The Design Process Phasing and Approaches			2				2			3	2	2	3	3			2	2	1	1	4	1	3	1	2	2	3	1	1		3	44	
Utilization of Knowledge in Design			3	3	3	3	3	1	3	3	3	2	3	3		3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	79	
Disciplinary Design			2				2	1		3	2	2	3	3			2	2	3	3		3	3	3	2	3	3	3	3	2	3	56	
Multidisciplinary Design										2	2								1	1		1		1	2	2		1	1	2	2	18	
Multiobjective Design										2	2								1	1		1		1				1	1	2	2	14	
2.1.2. Analytical reasoning and problem solving																																	
																										63	4/4						

Problem Identification and Formulation	3	3	2	3	3	3	3	3	3	3	3	3	2	3	2	3	3	3	2	2	3	2	3	2	3	3	2	2	3	3	84	
Modeling			2	3			3					2	1	3	1		2	2	2	2	3	2	3	2	3	3	3	2	2	3	2	51
Estimation and Qualitative Analysis	3	3		3	3	3	3	2	3	3	2	2	2	3	2	3	2	2	2	2	3	2	3	2	2	3	3	2	2	2	3	75
Analysis With Uncertainty										2	2	1					1	1	2	2		2	2	2	2	2	2	2	2	3	32	
Solution and Recommendation	3	3		3	3	3	3	2	3	2	2	2	2	3	2	3	2	2	2	2	3	2	3	2	2	3	3	2	2	2	3	74
2.1.3. Investigation and knowledge discovery																													48	4/4		
Hypothesis Formulation	2			3	3	3	3	1	3	2	2	1	1	3		3	1	1	3	3	3	3	2	3	3	3	2	3	3	3	2	68
Experimental Inquiry										2	2								2	2		2		2	2	2		2	2	2	2	24
Survey of Print and Electronic Literature	3			3	3	3	3	1	3	2	2	3	1	3	2	3	3	3	2	2	3	2	2	2	2	3	2	2	2	3	3	71
Hypothesis Test and Defense	2											1					1	1	2	2		2	2	2	2	2	2	2	2	2	3	30
2.1.4. System thinking																													35	3/4		
Thinking Holistically	3						2	1				2			2		2	2	1	1		1	3	1	2	3	3	1	1	2	3	36
Emergence and Interactions in Systems							2	1				2		2			2	2	2	2		2	3	2	2	2	3	2	2	2	3	38
Prioritization and Focus	2											2			2		2	2	2	2		2	2	2	2	3	2	2	2	2	3	36
Trade-offs, Judgment and Balance in Resolution							2					1					1	1	2	2		2	2	2	2	2	2	2	2	2	3	30
2.1.5. External and societal contexts																													32	3/4		
Roles and Responsibility of Engineers	3						2	2		2	3		1		1				1	1		1	3	1	3	2	3	1	1	2	3	36
The Impact of Engineering/Technology on Society	3						2	1		2	3	2	1		1		2	2	1	1		1	3	1	2	2	3	1	1	2	3	40
Society's Regulation of Engineering/Technology							2	1		2	3	2		1		2	2	1	1		1	3	1	2	2	3	1	1	2	3	36	
Contemporary Issues and Values	3						2			1	2							1	1		1	2	1		2	2	1	1	2	3	25	
Developing a Global Perspective	2						1	1		1	2							1	1		1	2	1	2	1	2	1	1	2	2	24	

Identifying Future Trends of Development	2									1	3								2	2	2	2	1	2	2	2	2	2	2	2	3	32	
2.2. Generic skills																																	
2.2.1. Personal skills																											35	3/4					
Creative Thinking	2						2			2	1	1		2			1	1	2	2	3	2	2	2	2	2	2	2	2	2	3	40	
Critical Thinking	3		2				2	2		2	1	2					2	2	2	2	3	2	3	2	2	2	3	2	2	2	3	48	
Recommending Innovation							2			2	1			2					1	1	3	1	2	1	2	2	2	1	1	2	3	29	
Time and Resource Management							1	1		2	2				2						3		2		2	2	2			2	3	24	
2.2.2. Teamwork																											46	4/4					
Forming Effective Teams	3	1	1					1		3	3	1	1		2		1	1	2	2		2	3	2	2	2	3	2	2	2		42	
Team Operation	3	1	1	3	3	3	3	1	3	3	3	1	1	3	2	3	1	1	2	2	3	2	3	2	2	3	3	2	2	3		68	
Team Growth and Evolution	3	1	1					1		3	3	1	1		2		1	1	2	2		2	3	2	2	2	3	2	2	2		42	
Technical Teaming	3	1	1					1		3	3		1		2				1	1		1	3	1	2	2	3	1	1	2		33	
2.2.3. Management and leadership																											16	1/4					
Developing Vision, Mission and Strategy	3									2	2															1	1				3	12	
Time and Resource Management										2	1								2	2	2	2	2	2	2	2	2	2	2	2		27	
Project Management										2	3															1	2			2		10	
2.2.4. Communications																											59	4/4					
Communications Structure (arguments, ideas)	3	1	1				2	2		2	2	1	1		2		1	1	2	2	3	2	3	2	2	2	3	2	2	2	3	49	
Written Communication	3	1	1		3	3	2	1	3	2	2	1	1	3	2	3	1	1	2	2	3	2	3	2	3	2	3	2	2	3	3	65	
Electronic/Multimedia Communication	3	1	1		3	3	2	1	3	2	2	1	1	3	1	3	1	1	2	2	3	2	3	2	2	2	3	2	2	2	3	62	
Graphical/Mathematical Communication		1					2	2		2	1	2	3		1		2	2	2	2	3	2	3	2	2	2	3	2	2	2	3	48	
Oral Presentation	3	1	1	3	3	3	2	2	3	3	1	2	1	3	2	3	2	2	2	2	3	2	3	2	2	2	3	2	2	2	3	70	
2.2.5. Communications in English																											79	4/4					
English: Listening - Speaking - Reading - Writing	2	1	1	3	3	3	3	2	3	2		2	2	3	2	3	2	2	2	2	3	2	3	2	3	3	3	2	2	3	3	72	
English: Oral Presentation	3	1	1	3	3	3	2	2	3	2		2	1	3	2	3	2	2	2	2	3	2	3	2	2	2	3	2	2	2	3	68	

