Republic of Iraq Ministry of Higher Education & Scientific Research Supervision and Scientific Evaluation Directorate Quality Assurance and Academic Accreditation Fuel & Energy Techniques Engineering Department

Academic Program Specification Form For The Academic Year 2024-2025

University: Northern Technical University College/Institute: College of Oil and Gas Techniques Engineering\Kirkuk Scientific Department: Department of Fuel and Energy Techniques Engineering

Dean's Name :

Deans Assistant For Scientific Affairs

Assist.Prof. Dr.Obid Majed Ali Assist.Prof. Dr. Galawish Nouri Taher 10/10/2024 Date: 10/10/2024 Date : Signature: (0 Signature:

Head of Department

Dr. Mohammed Qader Abdulrahman

Signature:

Date: 08/10/2024

The College Quality Assurance And University Performance Manager Maha Adnan Dawood Date: 10/10/2024

Signature:



PROGRAMME SPECIFICATION

The Bachelor's degree program in Fuel and Energy Technology Engineering extends for four academic years. The academic year consists of two semesters: the first semester (fall) and the fall semester. Second (spring) semester = 14 academic weeks + one week allocated for rest before the exam + one week allocated for the exam.

Teaching is carried out according to the application of the Bologna educational path that can be developed and updated according to the requirements of the labor market in the governmental and private oil sectors that are related to the specialization of the scientific department. For each subject there is a formative assessment and a summative assessment. Formative assessment includes tasks and duties assigned by the subject professor to the student during one semester (daily exams, homework, reports, work projects, field visits, and discussions) and others according to the nature of the academic subject. As for the summative assessment, it consists of two parts: the mid-term exam and the final exam, and it may include a general exam. Leah.

Number of academic subjects during four years = 43 academic subjects. The total number of credits for academic subjects during four years required to complete graduation requirements = 240 European credits distributed approximately equally for each semester or year of study.

Educational Institution	Northern Technical University/ College of Oil and Gas Techniques Engineering /Kirkuk
Scientific Department	Department of Fuel and Energy Technology Engineering
Name of the academic or professional program	Bachelor Degree in Fuel and Energy Techniques Engineering
Name of the final certificate	Bachelor Fuel and Energy Techniques engineering
Academic system:	Bologna Process
Accredited accreditation program	Program of the Ministry of Higher Education and Scientific Research
Other external influences	Scientific, field visits and summer training in oil and gas companies
Date the description was prepared	08/10/2024

- ✓ Objectives: The study of Fuel and energy engineering technologies aims to the following:
 - Preparing specialized engineers in the field of fuel production and finding new sources of energy.
 - 2- Finding new ways to produce fuel and energy that are environmentally friendly and efficient in terms of mass.
 - 3- Designing fuel and energy production equipment and units.
 - 4- Conducting research and applied studies related to energy production.
 - 5- Operating oil units and monitoring production lines and control.
 - 6-Applying occupational safety procedures and procedures to reduce environmental pollution.
 - 7-Familiarity with the procedures for maintaining and repairing production.
 - 8- Promote research in the field of fuel and energy with research centers of

oil

companies and corresponding scientific departments

✓ Required Program Outcomes, Teaching, Learning and Assessment Methods:

A- Cognitive objectives of Program:

- A1- It aims to know the analysis of chemical elements and calculations of material and energy balances.
- A2- It aims to know the operation of laboratory equipment and work with it.
- A3- It aims to know the science of organic chemicals.
- A4- It aims to know the science of internal combustion engines, mass and heat transfers.
- A5- It aims to learn mathematics and engineering analyses.
- A6- It aims to know how to follow industrial safety procedures and protect the environment from pollution.
- A7. Understanding of the importance of manufacturing process to the economy and design.

B: Skills objectives of the program:

- B 1- It aims to learn the skill of computer operation and organization work.
- B2- It aims to learn the skill of operating oil and gas refining units
- B3- It aims to learn the skill of designing and establishing laboratories.
- B4- It aims to learn the skill of monitoring production lines.
- B5- It aims to learn the skill of scientific research through the implementation of the engineering project.

B6- It aims to learn the skill of leadership and working within a team.

B7- Ability to fit an experimental data.

C. Emotional and Value Objectives:

- C1- Reading, Writing, Speaking and Listening for English language.
- C2- Apply mathematics to everyday life problems.
- C3- Recognize the uses of commands in programs.
- C4- Distinguishes between designs code run parts and use different objects in creating the programs, language abilities and reasons to use.
- C5- Creating educational cadres that can be relied upon in state institutions within the specialization.
- C6- Develop solutions to problems that occur in institutions and systems specialized in the field of fuel.
- C7- Work to create the requirements of the labor market and raise the economic capacity.
- C8- Preparing engineering cadres who can assume responsibility for leadership and teamwork.
- C9-Respect the time, laws and instructions, and follow the instructions and directives issued by the Supreme Council.

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1 Communication and conversation skills such as English language and presentation skill.
- D 2 Teamwork skills.
- D 3- Leadership skills and responsibility.
- D 4 Skills of self-education and self-reliance in following up on scientific developments.

✓ Teaching and Learning Methods:

- 1-Method of delivery (lecture).
- 2- Method of cooperative learning between students.
- 3-Method of teaching in teams.
- 4-Method of exploration.
- 5-Method of solving problems (Troubleshooting).
- 6-Method of training style.

Assessment methods

1-Written examination: To assess knowledge, understanding and skills

(Formative assessment + Mid-year exam and final exam of each semester in the academic year).

2- Oral examination: To assess knowledge, skills and intellectual functions, and attitude.

3-Assignments & other activities like seminars between students groups and scientific debates.

4-Quizzes (Shock exams).

- 5-Homworks.
- 6- Laboratory Experiments Reports.

Level Se	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)					Exam hr/sem	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module Code	
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)	117.2011	hr/sem	hr/sem	hr/sem		1785	out
		1	FEK 101	Analytical Chemistry	التيمياء العطيلية	English	4		2		1	1	7	127	48	175	7.00	С	
		2	FEK 102	Organic Chemistry	التيمياء العضوية	English	4		2		1	1	1	127	48	175	7.00	С	
		3	FEK 103	Engineering Mechanics	الميثانيك الهدسي	English	3				1		5	65	60	125	5.00	С	
First	One	4	COGTEK 100	Mathematics Principles	مبادئ الرياضيات	English	4				1		5	80	95	175	7.00	С	
		5	NTU 100	Human Rights & Democracy	النيمقراطية و حقوق الأنسان	Arabic	2						5	35	15	50	2.00	В	
		6	NTU 101	English Language	اللغة الأعليزية	English	2						5	35	15	50	2.00	В	
						Total	19	0	4	0	4	2	34	469	281	750	30.00		
			Module						SSWL	. (hr/w)			Exam	SSWL	USSWL	WL SWL em hr/sem	ECTS	Module Type	Prerequisite Module Code
	Semester	No.	Code	Module Name in English	اسم المادة الدراسية	Language	CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	0 (h(h-)	hr/sem	hr/sem	hr/sem				
		1	FEK104	Principles of Chemical Engineering	مبادئ الهننسة التيميارية	English	4	1			1	Semn (hr/w)	5	95	180	275	11.00	с	
		2	COGTEK 101	Engineering Drawing	میدی مهدمه میجوید ار سو ایندس	English	4	1	2	2	1		5	80	120	200	8.00	c	
		2	FEK 105	Engineering Workshops	ارتم بينتين اورش الهدمية	English			2	1			5	65	85	150	6.00	C	
	Two	4	NTU 102	Computer	الدلسوب	English	1		1				1	37	38	75	3.00	В	
		-				-							-					-	
		5	NTU 103	Arabic Language	اللغة العربية	Arabic	1					1	5	35	15	50	2.00	S	
						Total	7	1	6	3	1	1	27	312	438	750	30.00		
Level Seme			o. Module		اسم المادة الدراسية	Language	SSWL (hr/w)				Exam br/sem				ECTS				
Level	Semester	No.		Module Name in English	اسم المادة الدراسية	Language								SSWL	USSWL	SWL	ECTS		
Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	CL (hr/w)	Lect (hr/w)			Tut (hr/w)	Semn (hr/w)	Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Modu Code
Level	Semester	No.		Module Name in English Petroleum Refining	اسم المادة الدراسية تكرير البترول	Language English	CL (hr/w) 4	Lect (hr/w)			Tut (hr/w)	Semn (hr/w) 1					ECTS 8.00		
Level	Semester		Code					Lect (hr/w)	Lab (hr/w)		Tut (hr/w) 2		hr/sem	hr/sem	hr/sem	hr/sem		Туре	Prerequisite Modu Code
Level		1	Code FEK 200	Petroleum Refining Mathematics	تكرير البترول	English English	4	Lect (hr/w)	Lab (hr/w)				hr/sem 3	hr/sem 108	hr/sem 92	hr/sem 200 175	8.00	Type C	
Level	Semester	1 2	Code FEK 200 COGTEK 201 FEK 201	Petroleum Refining Mathematics Material and Energy Balances	تكرير البترول رياضيات موازنات المادة والطاقة	English English English	4 3 4		Lab (hr/w) 2		2	1	hr/sem 3 3 3	hr/sem 108 78 123	hr/sem 92 97 102	hr/sem 200 175 225	8.00 7.00 9.00	Type C C C	
Level		1 2 3 4	Code FEK 200 COGTEK 201 FEK 201 FEK 202	Petroleum Refining Mathematics Material and Energy Balances Computer Programming-MATLAB	تكرير البترول رياغنيات موازنات العادة والطاقة برمجة الحاسوب العاتلاب	English English English English English	4 3 4 2		Lab (hr/w)		2	1	hr/sem 3 3 3 3 3	hr/sem 108 78 123 63	hr/sem 92 97 102 37	hr/sem 200 175 225 100	8.00 7.00 9.00 4.00	Type C C C C C	
Level		1 2 3	Code FEK 200 COGTEK 201 FEK 201	Petroleum Refining Mathematics Material and Energy Balances	تكرير البترول رياضيات موازنات المادة والطاقة	English English English English Arabic	4 3 4 2 2	1	Lab (hr/w) 2 2	Pr (hr/w)	2 2	1	hr/sem 3 3 3 3 3 3 3	hr/sem 108 78 123 63 33	hr/sem 92 97 102 37 17	hr/sem 200 175 225 100 50	8.00 7.00 9.00 4.00 2.00	Type C C C	
Level		1 2 3 4	Code FEK 200 COGTEK 201 FEK 201 FEK 202	Petroleum Refining Mathematics Material and Energy Balances Computer Programming-MATLAB	تكرير البترول رياغنيات موازنات العادة والطاقة برمجة الحاسوب العاتلاب	English English English English English	4 3 4 2 2		Lab (hr/w) 2		2	1	hr/sem 3 3 3 3 3	hr/sem 108 78 123 63	hr/sem 92 97 102 37	hr/sem 200 175 225 100	8.00 7.00 9.00 4.00	Type C C C C C	
Level		1 2 3 4	Code FEK 200 COGTEK 201 FEK 201 FEK 202 NTU 201	Petroleum Refining Mathematics Material and Energy Balances Computer Programming-MATLAB	تكرير البترول رياغنيات موازنات العادة والطاقة برمجة الحاسوب العاتلاب	English English English English Arabic	4 3 4 2 2	1	Lab (hr/w) 2 2 2	Pr (hr/w)	2 2	1	hr/sem 3 3 3 3 3 3 3 15	hr/sem 108 78 123 63 33 405	hr/sem 92 97 102 37 17 345	hr/sem 200 175 225 100 50 750	8.00 7.00 9.00 4.00 2.00	Type C C C B	Code
econd		1 2 3 4	Code FEK 200 COGTEK 201 FEK 201 FEK 202 NTU 201 Module	Petroleum Refining Mathematics Material and Energy Balances Computer Programming-MATLAB	تكرير البترول رياغنيات موازنات العادة والطاقة برمجة الحاسوب العاتلاب	English English English English Arabic	4 3 4 2 2	1	Lab (hr/w) 2 2 2	Pr (hr/w)	2 2	1	hr/sem 3 3 3 3 3 3 3 15 Exam	hr/sem 108 78 123 63 33	hr/sem 92 97 102 37 17	hr/sem 200 175 225 100 50	8.00 7.00 9.00 4.00 2.00	Type C C C B Module	Code Prerequisite Modu
	Three	1 2 3 4 6	Code FEK 200 COGTEK 201 FEK 201 FEK 202 NTU 201	Petroleum Refining Mathematics Material and Energy Balances Computer Programming-MATLAB Baath Party crimes in Iraq	تكرير أيتزول ريافيات موازنت لمادة والطقة يرمجة الطسوب الماتلاب جرائم هزب أبعث في أعراق	English English English English Arabic Total	4 3 4 2 2 15	1	Lab (hr/w) 2 2 2 2 SSWL	Pr (hr/w) 0	2 2	1	hr/sem 3 3 3 3 3 3 3 15	hr/sem 108 78 123 63 33 405	hr/sem 92 97 102 37 17 345	hr/sem 200 175 225 100 50 750	8.00 7.00 9.00 4.00 2.00 30.00	Type C C C B	
	Three	1 2 3 4 6	Code FEK 200 COGTEK 201 FEK 201 FEK 202 NTU 201 Module	Petroleum Refining Mathematics Material and Energy Balances Computer Programming-MATLAB Baath Party crimes in Iraq	تكرير أيتزول ريافيات موازنت لمادة والطقة يرمجة الطسوب الماتلاب جرائم هزب أبعث في أعراق	English English English English Arabic Total	4 3 4 2 2 15	1	Lab (hr/w) 2 2 2 2 SSWL	Pr (hr/w) 0	2 2	1	hr/sem 3 3 3 3 3 3 3 15 Exam	hr/sem 108 78 123 63 33 405 \$\$WL	hr/sem 92 97 102 37 17 345 USSWL	hr/sem 200 175 225 100 50 750 SWL	8.00 7.00 9.00 4.00 2.00 30.00	Type C C C B Module	Code Prerequisite Modu
	Three	1 2 3 4 6 No.	Code FEK 200 COGTEK 201 FEK 201 FEK 202 NTU 201 Module Code	Petroleum Refining Mathematics Material and Energy Balances Computer Programming-MATLAB Baath Party crimes in Iraq Module Name in English	تكرير البترول ريافنيات موازنت المادة والطاقة برامجة الحاسوب الماتلاب جرائم هزب البحث في العراق اسم المادة الدراسية	English English English English English Arabic Total	4 3 4 2 2 15 CL (hr/w)	1	Lab (hr/w) 2 2 2 SSWL Lab (hr/w)	Pr (hr/w) 0	2 2	1	hr/sem 3 3 3 3 3 15 Exam hr/sem	hr/sem 108 78 123 63 33 33 405 \$\$WL hr/sem	hr/sem 92 97 102 37 17 345 USSWL hr/sem	hr/sem 200 175 225 100 50 50 750 \$WL hr/sem	8.00 7.00 9.00 4.00 2.00 30.00 ECTS	Type C C C B B Module	Code Prerequisite Modu
	Three Semester	1 2 3 4 6 No.	Code FEK 200 COGTEK 201 FEK 201 FEK 202 NTU 201 Module Code FEK 203 FEK 203	Petroleum Refining Mathematics Material and Energy Balances Computer Programming-MATLAB Baath Party crimes in Iraq Module Name in English Physical Chemistry Engineering Statistics	تكرير أيترول رياشيات موازنت المادة والطاقة براهجة الحاسوب الماتلاب جرائم حزب أيعت في لعراق اسم المادة الدراسية التيمياء الفيزياوية الأحساء الفيدسي	English English English Arabic Total Language English English	4 3 4 2 2 15 CL (hr/w) 4 2	1	Lab (hr/w) 2 2 2 2 SSWL Lab (hr/w) 2 2	Pr (hr/w) 0	2 2	1	hr/sem 3 3 3 3 3 15 Exam hr/sem 3 3 3	hr/sem 108 78 123 63 33 405 SSWL hr/sem 93 63	hr/sem 92 97 102 37 17 345 USSWL hr/sem 107 87	hr/sem 200 175 225 100 50 750 SWL hr/sem 200 150	8.00 7.00 9.00 4.00 2.00 30.00 ECTS 8.00 6.00	Type C C C B Module Type C C	Code Prerequisite Modu
	Three	1 2 3 4 6 No. 1 2 3	Code FEK 200 COGTEK 201 FEK 201 FEK 202 NTU 201 NTU 201 Module Code FEK 203 FEK 203 FEK 204 COGTEK 200	Petroleum Refining Mathematics Material and Energy Balances Computer Programming-MATLAB Baath Party crimes in Iraq Module Name in English Physical Chemistry Engineering Statistics Fluid Mechanics	تكرير أيترول رياضيات موازنت المادة والطاقة برمجة الحاسوب الماتلاب جرائم حزب أيعت في لعراق مرائم حزب أيعت في لعراق الم المادة الدراسية الكيمياء الفنزياوية الأحصاء الهندسي ميكانيك العراق	English English English Arabic Total Language English English English	4 3 4 2 2 15 5 CL (hr/w) 4 2 4	1	Lab (hr/w) 2 2 2 SSWL Lab (hr/w) 2 2 2 2	Pr (hr/w) 0	2 2 4 Tut (hr/w)	1	hr/sem 3 3 3 3 3 15 Exam hr/sem 3 3 3 3 3 3	hr/sem 108 78 123 63 33 33 405 SSWL hr/sem 93 63 108	hr/sem 92 97 102 37 17 345 USSWL hr/sem 107 87 92	hr/sem 200 175 225 100 50 750 750 SWL hr/sem 200 150 200	8.00 7.00 9.00 4.00 2.00 30.00 ECTS 8.00 6.00 8.00	Type C C C B Module Type C C C	Code Prerequisite Modu
	Three Semester	1 2 3 4 6 No. 1 2	Code FEK 200 COGTEK 201 FEK 201 FEK 202 NTU 201 Module Code FEK 203 FEK 203	Petroleum Refining Mathematics Material and Energy Balances Computer Programming-MATLAB Baath Party crimes in Iraq Module Name in English Physical Chemistry Engineering Statistics	تكرير أيترول رياشيات موازنت المادة والطاقة براهجة الحاسوب الماتلاب جرائم حزب أيعت في لعراق اسم المادة الدراسية التيمياء الفيزياوية الأحساء الفيدسي	English English English Arabic Total Language English English	4 3 4 2 2 15 CL (hr/w) 4 2	1	Lab (hr/w) 2 2 2 2 SSWL Lab (hr/w) 2 2	Pr (hr/w) 0	2 2 4 Tut (hr/w)	1	hr/sem 3 3 3 3 3 15 Exam hr/sem 3 3 3	hr/sem 108 78 123 63 33 405 SSWL hr/sem 93 63	hr/sem 92 97 102 37 17 345 USSWL hr/sem 107 87	hr/sem 200 175 225 100 50 750 SWL hr/sem 200 150	8.00 7.00 9.00 4.00 2.00 30.00 ECTS 8.00 6.00	Type C C C B Module Type C C	Code Prerequisite Modu

✓ General Courses and Curriculum Structure

Third Ser	Five	1 2 3 4 5	FEK301 FEK302 FEK303 FEK304 FEK305	Mass Transfer Engineering Analysis	أتحل المادة		CL (hr/w)	Lect (br/w)	1 1 1 1 1 1					h-lassa	hr/sem	hr/sem			
Third Ser		2 3 4	FEK302 FEK303 FEK304	Engineering Analysis	التقال المادة			cect (m/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)		hr/sem	nn/sem	in/sem			
Third Ser		3 4	FEK303 FEK304			English	4		2		1	1	3	123	52	175	7.00	С	
Third Ser		4	FEK304	Production and the Production of the Article Street Street	التطيلات الهنسية	English	4				1	1	3	93	57	150	6.00	С	
Third Ser				Environmental Pollution and Industrial Safety	الطوث اليني والسلامة الصناعية	English	2					1	3	48	52	100	4.00	S	
Ser	emester	5	FEK305	Termodynamics	النيناميك الحراري	English	4		2		1		3	108	67	175	7.00	С	
Ser	emester			Gas Technology	تتلوجيا الغاز	English	2		2			1	3	78	72	150	6.00	С	
Ser	emester													0		0	0.00		
Ser	emester					Total	16	0	6	0	3	4	15	450	300	750	30.00		
Ser	emester																		
		No.	Module	Module Name in English	اسم المادة الدراسية	Language				_ (hr/w)			Exam	SSWL	USSWL	SWL	ECTS	Module	Prerequisite Modu
			Code				CL (hr/w)	Lect (hr/w)		Pr (hr/w)		Semn (hr/w)	hr/sem	hr/sem	hr/sem	hr/sem		Туре	Code
		1	FEK306	Heat Transfer	أتتقل الحرارة	English	4		2		1		3	108	67	175	7.00	С	
	_	2	FEK307	Numerical Analysis	الطيلات العدية	English	2		2		1	1	3	93	32	125	5.00	С	
	Six	3	FEK308	Internal Combustion Engine	محركات الأحتراق أذاطي	English	2		2			1	3	78	72	150	6.00	E	
	_	4	FEK309	Fuel Cell Technology	تكنلوجيا خانيا الوقود	English	2		2			1	3	78	72	150	6.00	E	
	_	5	FEK310	Energy Resources	مصادر الطانة	English	2		2			1	3	78	72	150	6.00	С	
						Total	12	0	10	0	2	4	15	435	315	750	30.00		
									SSWL	L (hr/w)				SSWL	USSWL	SWL			
Level Sem	mester	No.	Module	Module Name in English	اسم المادة الدراسية	Language							Exam				ECTS	Module	Prerequisite Module(s Code
			Code				CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)		Semn (hr/w)	hr/sem	hr/sem	hr/sem	hr/sem		Туре	Code
	Seven	1	FEK401	Plants and Equipment Design	تصميم المعامل والمحات	English	2				2	1	3	78	122	200	8.00	С	
		2	FEK 402	Combustion and Explosion Technology	تتلوجيا الاهتراق والافجار	English	2		2		1	1	3	93	57	150	6.00	С	
e		3	FEK 403	Control and Measuring Engineering	هنسة الهاس والبيطرة	English	2		2			1	3	78	43	125	5.00	В	
3		4	FEK 404	Sustainable Energy	الطلاة المستدامة	English	2				1	1	3	63	87	150	6.00	С	
		5	NTU 400	Methodology of Scientific Research	منهجية البحث الطمي	English	1			2		1	3	63	62	125	5.00	С	
						Total	9	0	4	2	4	5	15	375	371	750	30.0		
									SSWL	L (hr/w)				SSWL	USSWL	SWL			
ourth Ser	emester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	CL (br/w)) Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)		Exam hr/sem	hr/sem	hr/sem	hr/sem	ECTS	Module Type	Prerequisite Module(Code
							or (m/m)	Leve (m/m)	cao (m/m)		i ac (iii/ii)	Semn (hr/w)		117.2011	in sen	in sen			
		1	FEK406	Process of Unit Operation	عمليات الوهدات الصناعية	English	2		2		1	1	3	93	82	175	7.00	С	
		2	FEK407	Power Plants	محطات الفررة	English	2		2		1	1	3	93	57	150	6.00	С	
E	Eight -	3	FEK408	Modeling and Simulation	المنجة والمحانة	English	1		2	1	1	1	3	93	57	150	6.00	С	
		4	FEK409	Reactors Design	تصميم المفاعلات	English	2				1	1	3	63	87	150	6.00	С	
		5	COGTEK 401	Graduation Project	مفروع التفرح	English	1			2		1		60	65	125	5.00	С	
						Total	8	0	6	3	4	5	12	402	348	750	30.0		
						Total	100	2	48	8	23	23	148	3208	2788	6000 2	240.0	ML	st be 240 ECTS
					Note: The student should cor	mplete 4 weeks (of Summer In	itemships to fu	ullfil the requir	ements of th	te Bachelor's	degree							
		CL	Class Lectur	e			В	Basic learning	activities				SWL: S	tudent Wo	rkload				
Structured SWL			Laboratory			Module type		Core learning a	ted learning activity				SSWL: S						
			Practical Trai	ning									USSWL: U	Instructure	d SWL				
(hr	nr/w) type	pe Tut Tutorial Lect Online le		2			E	Elective learni	ng activity										
					Note: Columna O. O. and B.			abauld and ba											
		semn	Seminar		Note: Columns O, Q and R a	ire progrmaed, p	rotected and	Should not be	ealtea										

