

## GRADUATION CHECKLIST

To graduate, students must pass all the stated courses in this checklist. It is the responsibility of the students to ensure that all courses are taken and passed. Students who do not complete any of the courses are not allowed to graduate.

NO.	CODE	COURSE	CREDIT EARNED (JKD)	CREDIT COUNTED (JKK)	TICK (✓) IF PASSED
<b>CHEMICAL-GAS ENGINEERING COURSES</b>					
1	SETG 1233	Introduction to Chemical and Gas Engineering	3	3	
2	SETG 1313	Mechanics of Engineering	3	3	
3	SETG 1323	Engineering Drawing	3	3	
4	SETG 1333	Thermodynamics	3	3	
5	SETG 1413	Mass Balance	3	3	
6	SETG 2133	Combustion Engineering and Gas Utilisation	3	3	
7	SETG 2343	Fluid Mechanics	3	3	
8	SETG 2363	Material Engineering	3	3	
9	SETG 2423	Energy Balance	3	3	
10	SETG 2433	Chemical Engineering Thermodynamics	3	3	
11	SETG 2443	Transport Processes	3	3	
12	SETG 2741	Fluid Mechanics Laboratory	1	1	
13	SETG 3123	Gas Processing and Liquefaction	3	3	
14	SETG 3213	Gas Transmission and Distribution	3	3	
15	SETG 3373	Environmental Engineering and Sustainability	3	3	
16	SETG 3383	Safety and Health in Petrochemical Industry	3	3	
17	SETG 3453	Chemical Engineering Computation	3	3	
18	SETG 3463	Chemical Reaction Engineering	3	3	

19	SETG 3473	Separation Process	3	3	
20	SETG 3483	Process Control and Instrumentation	3	3	
21	SETG 3721	Combustion Engineering and Gas Utilisation Laboratory	1	1	
22	SETG 3731	Separation Process Laboratory	1	1	
23	SETG 3751	Thermodynamics and Material Engineering Laboratory	1	1	
24	SETG 3812	Undergraduate Project I	2	2	
25	SETG 3915	Industrial Training	5	HL	
26	SETG 4223	Gas Storage and Reticulation System	3	3	
27	SETG 4393	Engineering Economics and Project Management	3	3	
28	SETG 4493	Plant Design	3	3	
29	SETG 4611	Gas Engineering Seminar	HL	HL	
30	SETG 4711	Gas Flow System Laboratory	1	1	
31	SETG 4761	Pollution Control and Reaction Laboratory	1	1	
32	SETG 4771	Process Control Laboratory	1	1	
33	SETG 4824	Undergraduate Project II	4	4	
34	SETG 4834	Plant Design Project	4	4	
35	SETG 4**3	Elective I	3	3	
	SET* 5**3	PRISMS Elective I			
36	SET* ***3	Elective II	3	3	
	SET* 5**3	PRISMS Elective II			
37	SET* ***3	Elective III	3	3	
	SET* 5**3	PRISMS Elective III			
		<b>TOTAL CREDIT OF CHEMICAL-GAS ENGINEERING COURSES (a)</b>	<b>97</b>	<b>92</b>	

<b>MATHEMATICS/ SCIENCE/ TECHNOLOGY COURSES</b>					
<b>(Faculty of Science/ Faculty of Engineering)</b>					
1	SECP 1013	Programming Technique I	3	3	
2	SEEU 2003	Electrical Technology	3	3	
3	SETG 2353	Introduction to Organic and Analytical Chemistry for Engineers	3	3	
4	SSCE 1693	Engineering Mathematics I	3	3	
5	SSCE 1793	Differential Equations	3	3	
6	SSCE 1993	Engineering Mathematics II	3	3	
		<b>TOTAL CREDIT OF MATHEMATICS/ SCIENCE/ TECHNOLOGY COURSES (b)</b>	<b>18</b>	<b>18</b>	
<b>UNIVERSITY GENERAL COURSES</b>					
<b>Cluster 1: Appreciation of Philosophy, Value and History</b>					
<b>(Faculty of Social Sciences and Humanities)</b>					
1	UHMS 1182	Appreciation of Ethics and Civilizations (for Local Students)	2	2	
	UHMS 1022	Philosophy and Current Issues (for International Students)			
	OR UHMS 1182	OR Appreciation of Ethics and Civilizations (for International Students)			
2	UHS 1022	Philosophy and Current Issues (for Local Students)	2	2	
	UHLM 1012	Malay Language Communication 2 (for International Students)			
<b>Cluster 2: Generic Skills</b>					
1	UHMT 1012	Graduate Success Attribute	2	2	
<b>Cluster 3: Knowledge Enhancement</b>					
1	UHIT 2302	The Thought of Science and Technology	2	2	

2	UETS 2142	Energy Sustainability (University General Elective)	2	2	
<b>Cluster 4: Co-Curriculum and Service Learning</b>					
1	UKQF 2**2	Co-Curriculum	2	2	
2	UKQT 3001	Extracurricular Experiential Learning (ExCEL)	1	1	
<b>Cluster 5: Language Skills</b> <b>(Language Academy, Faculty of Social Sciences and Humanities)</b>					
1	UHLB 1112	English Communication Skills	2	2	
2	UHLB 2122	Academic Communication Skills	2	2	
3	UHLB 3132	Professional Communication Skills	2	2	
4	UHL* 1112	Foreign Language Elective	2	2	
<b>Cluster 6: Entrepreneurial Skills</b>					
1	UBSS 1032	Introduction to Entrepreneurship	2	2	
		<b>TOTAL CREDIT of UNIVERSITY GENERAL COURSES (c)</b>	<b>23</b>	<b>23</b>	
		<b>TOTAL CREDIT TO GRADUATE (a + b + c)</b>	<b>138</b>	<b>133</b>	
<b>OTHER COMPULSORY COURSES - PROFESSIONAL SKILLS CERTIFICATE (PSC).</b>					
<ul style="list-style-type: none"> <li>• Students are required to enrol and pass FIVE (5) PSC courses, in order to be eligible to graduate.</li> <li>• Please refer to page FE 8 in the UG Academic Handbook, for more information about PSC courses.</li> </ul>					
<b>COMPULSORY PSC COURSES (Enrol all 4 courses)</b>					
1	GSPX XXXX	Design Thinking for Entrepreneur			
2	GSPX XXXX	Talent and Competency Management			
3	GSPX XXXX	Faculty Engineering Safety Pass (FESP) <i>MODULE 1 - compulsory for SKM, SKT and SKE students</i> <i>MODULE 2 – compulsory for SKA, SC, SKBSK students</i>			

4	GSPX XXXX	English Communication Skills for Graduating Students (ECS)	
<b>ELECTIVE PSC COURSE (Choose 1 only)</b>			
1	GSPX XXXX	Data Analytics for Organization	
2	GSPX XXXX	Writing	
3	GSPX XXXX	Construction Measurement (Mechanical & Electrical Works)	
4	GSPX XXXX	Professional Ethics and Integrity	
5	GSPX XXXX	More elective courses to be added in future	

## COURSE SYNOPSIS

### CORE COURSES

#### **SETG 1233 Introduction to Chemical and Gas Engineering**

The objective of this course is to introduce chemical and gas engineering and prepare students for learning engineering to become an engineer of the future. This course serves to bridge pre-university education to university life and provide support for adjusting to learning and expectations in tertiary education. The topics/skills that will be learnt in this course include: overview of engineering & chemical gas engineering, basic principles of gas engineering related processes, uses of Microsoft Excel, basic calculations of common process variables and cooperative Problem-Based Learning (CPBL) case study on sustainable development. One of the important elements of the CPBL case study is Teaching-Research Nexus (TRN) in which students will learn through research even at the undergraduate level.

#### **SETG 1313 Mechanics of Engineering**

This course is designed to introduce students to the basic principles and concepts in mechanics. It deals with statics in engineering mechanics that are the resultant and resolution of force(s) acting on a particle, the equilibrium of a particle, the effect of force(s) on a rigid body, how to replace a force system with equivalent system, the equilibrium of rigid bodies, determination of centroid as well as analysis of structure and friction. This course also includes the dynamics in engineering mechanics that are determination of rectilinear and curvilinear motions of particle and analysis of principle of work and energy. At the end of the course, students should be able to demonstrate and apply the knowledge by solving various problems in Statics and Dynamics, which forms the basis of further engineering subjects especially Mechanics of Materials and Fluid Mechanics.

#### **SETG 1323 Engineering Drawing**

This course provides a fundamental background in engineering drawing to the students, which will enable them to work more effectively in the various fields of engineering. This course aims at developing the skills needed for documenting designs using drawings and for performing graphical analysis of two dimensional and three dimensional problems. The students will be