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COLLEGE OF ENGINEERING IS COMPRISES OF FOUR MAJOR DISCIPLINES:
CHEMICAL AND PETROLEUM ENGINEERING, CIVIL ENGINEERING, ELECTRICAL/ELECTRONICS AND COMPUTER ENGINEERING, AND MECHANICAL ENGINEERING

DEPARTMENT OF CHEMICAL AND PETROLEUM ENGINEERING

DEPARTMENTAL VISION

The vision of the Department is to be the best Chemical/Petroleum Engineering Department in any University with national and international acclaim; a Department where the advancement of Engineering and technology is continuously dynamic, environment-friendly engineers, required in the public and private sectors of the economy are midwife for the rapid industrialization and development of Guyana.

DEPARTMENTAL MISSION

The departmental mission is to develop into a national resource that will continue to support the development of St. Vincent, its economic diversification to make it responsive to the needs of government, industry and society. Thus, the department will provide:

- State-of-art technological and engineering training that prepares the graduates for responsibilities of the workplace.
- To produce qualified and competent Chemical/Petroleum Engineers in such areas of specialization as – environmental engineering, well logging, well drilling, reaction engineering and separation processes.
- Engage in appropriate research activities, and, hence, produce the most sought-after engineers by all employers of labour, post graduate schools and research institutes.
- Establish industry-institution linkages for mutually beneficial relationships.

Strive to become a Centre of Excellence in Engineering and Technology in the East Caribbean sub-region where expertise and facilities to accelerate the pace of industrial development can be provided.

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OBJECTIVES:

(a) To provide a highly motivated academic environment that fosters and academically minded to pursue further studies and research in **Chemical/Petroleum Engineering.**

(b) To develop manpower for the country.

(c) To contribute to the supply of academic and professional advise both for Vincentia Universities and Industries.

CONTINUOUS ASSESSMENT

To ensure a proper follow-up of students, assignments are given regularly to students, seminar presentations on each course are made by students; also tests are given at least twice in a semester before the final examinations. These continuous assessment tests/assignments and seminars contribute a total of 30 marks to the final grading at the end of the semester.

ADMISSION REQUIREMENTS

(i) Direct Entry Requirement:
Two A' level passes in Physics and mathematics and an additional subsidiary subject. Candidates are expected to possess five credits including English Language, Mathematics, Physics, Chemistry and any other relevant science subject at O'level and A'level must be obtained at not more than two sittings; or

(ii) A national Diploma certificate from approved universities or colleges of technologies or Polytechnics with a grade not lower than Merit.

(iii) Any other relevant credential approved by the Senate of the University.

UME
Five O' level credits including English Language, Mathematics, Physics, Chemistry and any other relevant science subjects.

(a) Programme/Sub-discipline/Discipline Structure to include period of formal studies in the Universities. Industrial training, planned visit and projects.
B.Eng. (**Chemical/Petroleum Engineering)** – 5 years.
By Direct Entry –
National Diploma (ND) 4 years.
Higher National Diploma (HND) 3 years.

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Graduation Requirement

For a student to qualify for graduation from any of the programmes, such a student must have passed all the prescribed courses in addition to satisfactorily meeting the Industrial Training requirements, and all General studies courses of the University. Such a student must have also met the minimum number of years and not exceeded the maximum number of years required for graduation. See Table 1

Table 1: Minimum and Maximum No of years Required for Graduation

Level of entry	Minimum number of years to graduate	Maximum number of years to graduate
100 level 200 level 300 level	5 4 3	7 6 5

The class of the Bachelor of Engineering Degree is determined by the final cumulative grade point average earned by the graduating student.

Cumulative Grade Point Average (CGPA)

The CGPA for each level of course is calculated from a combination of the grade GP assigned to percentage scored obtained in the examination and the credit assigned to that course. The relationship is aptly displayed in Table 2.

Table 2: Calculation of GPA

Courses attempted (a)	Credits attempted (b)	% Scores (c)	Letter grades (d)	Grade point (e)	Grade point credit weighed (f) =b)x(e)	Cumulative grade point average (GPA) (g) =∑(f)/ ∑(b)
CHE 211 CHE 221 MEE 231 CHE 241 CHE 251 CE 261	3 3 4 2 3 4	70-100% 60-69% 50-59% 45-49% 40-445 0-39%	A B C D E F	5 4 3 2 1 0	3x5=15 3x4=12 4x3=12 2x2=4 3x1=3 4x0=4	 46 =2.42 19
Total	19			Total	46	

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Thus, the student who attempted the 200 level courses shown in Table 2, sat for the total 19 credits, and ended up with a GPA of 2.42 for that level. This mode of computation is done for each level per student. The cumulative grade points average, CGPA on which the classification of a graduating student is based, is the sum of the weighted grade point for all courses taken in the course of the study divided by the total credit load taken by the student throughout the study.

The CGPA computation is as shown in Table 3.

Table 3: CGPA for a graduating student, Mr. XYZ

Mat No. (a)	Name of Student (b)	Level (c)	Course attempted (a)	Credits attempted (d)	Grade point (e)	Weighted Grade Point [(d) x (e)] (f)	CGPA =∑ (f) / ∑ (g)
ENG990020	MR. XYZ	100	PHY 121 CHE 111 MTH 122	2 1 3	3 3 3	6 3 9	
		200	MEE 211 MEE 222 MEE 232	2 2 3	3 3 4	6 6 12	
		300	MEE 311 MEE 321 MEE 232	2 3 3	2 1 0	4 3 0	99 2.68 37
		400	MEE 411 MEE 421 MEE 431	3 3 2	4 3 2	12 9 4	
		500	MEE 511 MEE 521 MEE 532	3 2 3	3 2 4	9 4 12	
			Total	**37**		**99**	

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The degree classification, according to the CGPA is presented in Table 4:

Table 4: degree Classification

CGPA	Class of Degree
4.50 – 5.00	First Class
3.50 – 4.49	2nd Class Upper Division
2.40 – 3.49	2nd Class Lower Division
1.50 – 2.39	3rd Class Upper Division
1.00 – 1.49	Pass

Thus, the candidate, Mr XYZ who finished up with a CGPA of 2.68 has earned a 2nd Class Lower Degree.

Note: L = Lecture Hours/Week;
T = Tutorial Hours/Week;
P = Practical Hours/Week;

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COURSE STRUCTURES/DESCRIPTIONS
100 LEVEL COURSE STRUCTURE:

SEMESTER	COURSE CODE	COURSE TITLE	SPREAD			CREDIT UNIT
			L	T	P	
FIRST	CHM 111	General Chemistry 1	2	1	-	3
	CHM 112	Organic Chemistry 1	2	-	-	2
	MTH 111	Algebra & Trigonometry	2	1	-	3
	MTH 112	Calculus/Real Analyses	2	1	-	3
	PHY 111	General Physics 1(mechanical and properties of matter)	2	1	-	2
	PHY 112	General physics II (Fluid Dynamics/Elasticity)	2	-	-	2
	PHY 113	General physics III (Thermal Physics)	2	-	-	2
	GST 111	Communication in English 1	2	-	-	2
	GST 112	Logic, Philosophy and Human Existence	2	-	-	2
	GST 113	Nigeria Peoples and Culture	2	-	-	2
TOTAL CREDITS						**23**

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100 LEVEL COURSE STRUCTURE:

SEMESTER	COURSE CODE	COURSE TITLE	SPREAD			CREDIT UNIT
			L	T	P	
SECOND	CHM 121	General Chemistry II	2	1	-	3
	CHM 122	General Chemistry	-	-	2	2
	CHM 123	Organic Chemistry II	2	1	-	3
	MTH 112	Vectors, Geometry/Statistics	2	1	-	3
	PHY 121	Differential Equation & Dynamics	2	1	-	3
	PHY 100	Practical Physics	-	-	6	1
	PHY 121	Electromagnetism & Modern Physics	3	1	-	2
	PHY 122	Modern Physics 1	2	-	-	2
	PHY 123	Wave, Vibration & Optics	2	-	-	2
	GST 121	Use of Library, study skills and ICT	2			2
	GST122	Communication in English II	2			2
	GST 123	Communication in French	1	-	-	2
	IUITS 102	Igbinedion University Industrial Training Scheme.	-			1
TOTAL CREDITS						**28**

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300 LEVEL COURSE STRUCTURE: (FIRST SEMESTER)

SEMESTER	COURSE CODE	COURSE TITLE	SPREAD			CREDIT UNIT
			L	T	P	
FIRST	CHE 311	Chemical Engineering Thermodynamics	2	1	-	3
	CHE 321	Biochemical Engineering	3	1	-	4
	CHE 341	Industrial Process Calculations	2	1	-	2
	CHE 361	Fluid flow	2	1	-	2
	CHE 371	Separation Processes	2	-	-	3
	EMA 301	Engineering Mathematics II	2	1	-	3
	GRE 331	Research Methods and Technical Report writing (GRE 331)	2	-	-	2
	ESP 321	Introduction to Entrepreneurship Studies	1	-	1	2
	ELA 301	Chemical Engineering Laboratory	1	-	6	2
TOTAL CREDITS						**23**

300 LEVEL COURSE STRUCTURE: (SECOND SEMESTER)

SEMESTER	COURSE CODE	COURSE TITLE	SPREAD			CREDIT UNIT
			L	T	P	
SECOND	CHE 312	Computer Application in Chemical Engineering I	2	1	-	2
	CHE 322	Process Instrumentation	2	1	-	2
	CHE 332	Chemical Kinetics	2	1	-	3
	CHE 362	Transport Phenomena	3	1	-	4
	CHE 372	Particle Technology	1	1	-	2
	EMA 302	Engineering Mathematics	2	1	-	2
	ELA 302	Chemical Engineering Laboratory	1	-	6	4
	IUIT 302	Igbinedion University Industrial Training Scheme	-	-	6	1
TOTAL CREDITS						**20**

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400 LEVEL COURSE STRUCTURE:

SEMESTER	COURSE CODE	COURSE TITLE	SPREAD			CREDIT UNIT
			L	T	P	
FIRST	CHE 411	Chemical Engineering Thermodynamics II	2	1	-	2
	CHE 421	Chemical Engineering Laboratory	2	1	-	2
	CHE 431	Plant design I	2	1	-	3
	CHE 451	Transport Phenomena II	3	1	-	4
	CHE 461	Separation Processes II	1	1	-	2
	CHE 471	Economics for Engineers	2	1	-	2
	CHE 481	Computer Applications in Chemical				
	CHE 491	Introduction to Entrepreneurship Studies	1	-	6	4
	EMA 401	Engineering Mathematics	-	-	6	1
	ELA 401	Laboratory/Workshop Practice				
TOTAL CREDITS						**20**
400 LEVEL SECOND SEMESTER	IUITS	Six Months Industrial Training				**6**

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500 LEVEL COURSE STRUCTURE:

	COURSE CODE	COURSE TITLE	SPREAD L	SPREAD T	SPREAD P	CREDIT UNIT	Pre-Requisites
2nd SEMESTER	CHE 511	Process Dynamics, and Control	3	1	-	4	CHE 421
	CHE 521	Process Optimization	2	1	-	3	CHE 421
	CHE 531	Process Design II	2	1	-	3	CHE 431
	CHE 541	Separation Processes III	2	1	-	3	CHE 461
	CHE 551	Petroleum Refining Processes	2	1	-	3	
	CHE 561	Chemical Reaction Engineering III	2	1	-	3	CHE 471
	CHE 571	Biochemical Engineering II	2	1	-	3	
	CHE 591	Polymer Engineering II	2	1	-	3	CHE 321
	GRE 501	Engineering Management/Law	2	1	-	3	GRE 331
	CHE 501	Project	1	-	9	3	-
		Total Credit				**31**	
SECOND	CHE 512	Loss Prevention in the Process	2	-	-	2	
	CHE 532	Industries	-	-	-	3	-
	CHE 552	Process Design III Reservoir Engineering One Elective From:	2	3	-	3	-
	CHE 562	(a) Technology of Inorganic Chemical (b) Technology of Soap and Detergents.	2	1	-	3	CHE 431, CHE 531, CHE 441
	CHE 572	(c) Technology of Pulp and Paper one Elective from the following	2	1	-	3	
	CHE 502	(a) Technology of Coal Processing (b) Technology of Sugar Processing (c) Technology of Clays Processing Project	-	-	9	3	GRE 501
		Total Credits				**17**	