STUDENT'S HANDBOOK

DEPARTMENT OF ENVIRONMENTAL TECHNOLOGY

SCHOOL OF ENGINEERING AND ENGINEERING TECHNOLOGY

FEDERAL UNIVERSITY OF TECHNOLOGY OWERRI, NIGERIA

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FROM THE HEAD OF DEPARTMENT

The purpose of this Handbook is to give students of the Department of Environmental Technology opportunity to keep abrest of some basic information about the Department which ordinarily may not be obtained from lecture materials or classroom environment.

The word environment in the global sense is the surrounding including land, water and atmosphere in which man interacts with one another, exploiting as it were, the available natural resources to achieve its biogenic needs, existence and sustenance. The Federal University of Technology Owerri (FUTO), Nigeria in which we are for example, is a micro-cosm of the global environment.

The Department of Environmental Technology (DEVT) in the school of Engineering and Engineering Technology (SEET) of FUTO is concerned with qualitative learning, studies, knowledge and remediation of problems related to environmental degradation which include environmental pollution, flood and soil erosion control and technology for effective geographic information system (G.I.S.).

I congratulate the lucky students of the Department and welcome freshmen heartily into our programme in environmental engineering technology.

In pursuance of your career in the Department, it may be important for you to know the line of administration or communication in FUTO. The Vice-chancellor is the Chief Executive and Chairman of Senate from whom authority flows down to the Dean of the school and then to the Head of Department. Academic matters of the students are handled at the Department level first before forwarding to the higher authorities. In the same vane any communication to the university authority must be routed through the Head of Department or handled at that level.

Student's welfare matters in the hostels are, however, managed by the Dean of Student Affairs Office. Issues about academic transcript should be directed to the Registrar. The Registry also issues course registration forms to students at the beginning of every session to enable them register the semester courses with the Department.

The Department of Environmental Technology runs a five year undergraduate programme and students are expected to register and pass the requisite courses offered by the Department at each semester up to the final year to enable them qualify for our degree certificate.

Engr. Associate Professor C. D. Okereke
Head of Department of Environmental Technology, FUTO.

CONTENTS

BRIEF HISTORY OF THE DEPARTMENT

The Federal University of Technology, Owerri (FUTO) is one of the Universities of Technology established in the early eighties primarily to train high level manpower and also carry out research and consultancy services in engineering and technology. Since the inception of FUTO, academic programmes have been developed at a pace dictated by national need and availability of funds.

In 1997/98 a new programme, the Department of Environmental Technology was mounted in the School of Engineering and Engineering Technology (SEET) following the approved due process under the able leadership of the Vice-Chancellor, Engr. Prof. C. O. G. Obah.

The Department of Environmental Technology started in 1998/99 academic year to admit students into its degree options, namely, Geo-environmental Technology, Flood and Erosion Control Technology and Pollution Control Technology under the pioneer Head of Department, Engr. Associate Professor C. D. Okereke. The initial modest students' population of the Department was 38. In 1999/2000 academic year, the population was increased to 100.

2.0 PHILOSOPHY AND OBJECTIVES

The global environment has been conceptualised into a family of comity of nations in which the effects of some activities of any facet of the family invariably transcends the boundaries of the others. Activities of envrionmental adversity are guided by set rules or laws to moderate those that could otherwise cause environmental degradation and when environmental problem arises there should be experts to handle the remediation programmes and systems effectively. The environment is the concern of every nation today and no nation especially the developing countries can afford to sit on the fence or do nothing while the effect of various exploitations of natural resources, industrial and municipal activities continue to pose threats to their very existence as a people.

The objectives of Environmental Technology of the Federal University of Technology Owerri are:

(i) To train high level manpower to prevent and combat environmental degradation particularly in the vulnerable tropical environment by applying par excellence a comprehensive combination of analytical knowledge of natural, social and applied sciences or engineering.

(ii) To facilitate the development of the much needed basic and applied research and documentation for preservation or sustenance of a healthy rural and urban environment in

developing countries.

(iii) To offer outreach consultancy services in environmental engineering and technology for remediation projects.

The unique nature and complexity of environmental problems often lends the remediation scheme to inter-disciplinary approach. This fact was carefully taken into cognisance in designing the Environmental Technology Programme in the Federal University of Technology Owerri, Nigeria. The three degree options designed to address various environmental problems are: Pollution Control Technology, Flood and Erosion Control Technology and Geo-environmental Technology.

In the first two years of the five-year undergraduate programme, students do the same courses most of which are common engineering courses. From the third year they branch out to their options of interest.

3.0 THE DEGREE PROGRAMME

3.1 POLLUTION CONTROL TECHNOLOGY OPTION

This option is fashioned to produce men and women with the requisite knowledge and skill of physical, chemical and biological engineering to study or investigate, design, produce and manage

technological systems or arrangement for prevention or control of environmental pollution of air, water and soils caused by human activities in the industry, petroleum oil exploitation, unregulated waste disposal including toxic wastes and gas flaring. Water and waste water treatment plants are examples of pollution control systems to sustain human health and envrionmental safety.

3.2 FLOOD AND EROSION CONTROL OPTION

This degree option is designed to produce people with expert knowledge of soil and water engineering to tackle the menacing problems of gully or sheet erosion as well as flood mitigation and drainage.

3.3 GEO-ENVRIONMENTAL TECHNOLOGY OPTION.

Geo-environmental Technology is quite wide in scope and covers studies in water resources, photogrammetry, air photo interpretation, remote sensing technology and all the geological sciences that contribute in the development of effective geographical information system (G. I. S).

4. ADMISSION REQUIREMENTS

Candidates are admitted into the Department for the undergraduate programme through the Joint Admissions and

Matriculations Board (JAMB) examinations. The required JAMB subject combination is Mathematics, Chemistry, Physics and English language. In addition, the aspirants for the B. Tech. (Env. Tech.) degree must have at least five credit grades in Mathematics, Chemistry, Biology, Physics and English Language at the Senior Secondary Certificate Examination (SSCE) or General Certificate of Education (GCE) ordinary level.

5.0 EMPLOYMENT OPPORTUNITIES

Job opportunities abound for graduates of Environmental Technology in the following areas:

* Petroleum oil production and Allied companies.
* Solid minerals exploitation companies.
* Industries, estate and agricultural companies.
* River Basin Development Authorities.
* Agricultural Development Projects
* International Organisations such as the United Nations Environment Programme (UNEP).
* Federal and States Ministries of Agriculture, Environment, Works and Transport.
* Environmental Engineering Companies including the Aviation Sector.
* Federal and State Environmental Protection Agencies (EPA).
* Research Institutes and Tertiary Institutions.

* Private consultancy and self employment.
  Virtually all manufacturing and construction companies require environmental engineers/experts.

6.0 AVAILABLE FACILITIES

6.1 LIBRARY

The university has old library and new library complexes which are stocked with text books, journals and periodicals some of which are in related subject area. The basic science books in mathematics, physics, chemistry, biology and environment required at the foundation year are also available in the new library complex.

Students are expected to register with the librarian to qualify to use the library and borrow books. The library is available for use during the week days between 9.00 am and 6.00pm and Saturdays from 9.00am to 1.00 pm. These times of operation are subject to change from time to time.

6.2 LABORATORY AND LECTURE ROOMS

A good number of laboratory and workshop facilities and lecture theatre/classrooms used by other Departments in SEET are used by the Department because of the inter-disciplinary nature of environmental technology. Most of the laboratory assignments and workshop practice are carried out in the School of Science lab or SEET Workshop buildings housing also the Centre for

Industrial Studies (CIS). The Department also uses lab facilities in the Institute of Erosion Studies (IES). Its unique laboratory for specialised teaching and research is in the making. Field survey is done as part and parcel of laboratory work. All laboratory exercises are compulsory to students.

6.3 COMPUTER CENTRE

There are quite a good number of personal computers (PCs) at the University Computer Centre which students can use under the tutorship and supervision of the staff of the Centre.

6.4 INSTITUTE OF EROSION STUDIES (IES)

Equipment available at the IES are used by the students of the Department under the supervision of the lecturer of the course involving the laboratory work.

6.5 MANAGEMENT INFORMATION SYSTEM (MIS) UNIT

This unit keeps records of students and staff in computer files for official use only. The computer facilities in this unit are not for students.

6.6 HOSTEL ACCOMMODATION

Hostel accommodation is available to all first year students (freshmen) and final year students. Other students not accommodated in the University hostel make their private arrangement outside the campus at their own expense. Information about accommodation can be obtained from the office of the Dean of Student Affairs.

6.7 MEDICAL HEALTH SERVICES UNIT

The Health Services Unit located between the Students' Hostels and the new library complex provides consultation services and drugs to students and staff with medical cases.

6.8 MULTI-ACTIVITY CENTRE

This centre is for indoor-sporting activities. It has canteen facilities too. One of the big halls is used by St. Thomas Aquinas Catholic Chaplaincy for Church mass on Sundays. Other Christians use the space also for worship.

6.9 MAIL OFFICE

There is a mail office at the SEET Head building from which students can collect or post their mails.

6.10 GUIDANCE AND COUNSELLING DEPARTMENT

This Department offers counselling services to desiring students. It is temporarily located beside the FUTO Health Services building.

6.11 FUTO COMMUNITY BANK

This bank located near the School of Science (SOSC) building offers savings and current accounts banking facilities to desiring customers. Students are advised to lodge their large sums of money in the bank. The bank operates only on week days between the hours of 9.00am and 1.30pm.

7.0 RESEARCH

Research and training activities shall be tailored towards collaborating with the Federal Environmental Protection Agency and the oil industries particularly in developing new technological knowledge for the management of the environment. Collaborative research with foreign agencies and institutions along the line of the United Nations Agenda 21 mandate shall be encouraged. Some basic or applied research relevant to the main research thrust of the Department are also of immense interest.

8.0 COURSE OUTLINE

8.1 POLLUTION CONTROL TECHNOLOGY OPTION HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
MTH 101	Elementary Mathematics I	3	1	0	4
ENG 101	Workshop Practice I	0	0	1	1
PHY 101	General Physics	2	1	1	4
CHM 101	General Chemistry I	2	1	1	4
BIO 101	Biology for Chemical Sciences	2	0	1	3
ENG 103	Engineering Drawing I	0	0	1	1
GST 101	Use of English	1	1	0	2
GST 103	Humanities	1	0	0	1
		11	4	5	20

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
MTH 102	Elementary Mathematics II	3	1	0	4
PHY 102	General Physics II	2	1	1	4
CHM 102	General Chemistry II	2	1	1	4
ENG 102	Workshop Practice II	0	0	1	1
ENG 104	Engineering Drawing II	0	0	1	1
GST 102	Use of English	1	1	0	2
GST 110	Science, Engineering and Technology in Society	1	0	0	1
GST 108	Social Science I	1	1	0	2
		10	5	4	19

YEAR TWO

HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
CSC 201	Computers and Applications I	2	1	1	4

MTH 211	Introduction to statistics and probabilities	2	1	0	3
MTH 203	Ordinary Differential Equations I	2	1	0	3
GST 201	Social Sciences II	1	0	0	1
EVT 203	Environmental Meteorology	2	0	1	3
ENG 209	Engineering Thermodynamics	2	0	1	3
EVT 205	Climate and Biophysical Environment	2	0	1	3
		13	3	4	20

YEAR TWO

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
EVT 210	General Ecology	3	0	0	3
GLY 206	Applied Geology	1	0	1	2

ACE 202	Soil Mechanics and Behaviour	1	1	1	3
CHM 202	Inorganic Chemistry	2	0	1	3
EVT 204	Introduction to Environmental Management	1	0	0	1
IMB 202	General Microbiology	1	0	1	2
EVT 208	Pollution and Waste Management I	1	0	1	2
EVT 214	General Biochemistry	1	0	1	2
		11	1	6	18
SIW 200	Long Vacation Industrial Attachment	0	0	2	2

YEAR THREE

HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
ENG 315	Principles of Engineering Surveying	1	0	1	2
ACE 301	Hydrology I	2	0	1	3

EVT 303	Toxicology	2	0	1	3
ENG 313	Technical report writing and presentation	1	1	0	2
EVT 315	Biochemistry II	1	0	1	2
EVT 301	Analytical Chemistry	2	0	1	3
SSC 303	Soil Physics	2	0	1	3
EVT 317	Resource Planning and Management	1	1	0	2
		12	2	6	20

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
EVT 316	Ecology and Ecosystem	1	1	0	2
EVT 314	Chemistry of atmosphere	3	0	0	3
EVT 302	Diffusion theory and odour control	3	0	0	3

EVT 312	Ecological Resource Management	2	0	1	3
EVT 320	Pollution and Waste Management	1	1	0	2
EVT 310	Pesticides and Herbicides in the environment	1	0	1	2
EVT 308	Land Evaluation for erosion control	1	0	1	2
EVT 322	Environmental impact assessment	1	1	0	2
		13	3	3	19
SIW 300	Long Vacation Industrial Attachment	0	0	2	2

YEAR FOUR

HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
EVT 417	Environmental Monitoring	1	0	1	2

EVT 403	Photogrammetry and interpretation	1	1	1	3
EVT 409	Principles of land drainage	2	1	0	3
EVT 405	Law for Environmental Management	1	1	0	2
EVT 425	Environmental Chemistry I	2	0	1	3
EVT 423	Techniques for Remote Sensing	1	0	1	2
EVT 415	Contaminant Hydrogeology	2	1	0	3
		10	4	4	18

YEAR FOUR

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
SIW 400/401	INDUSTRIAL ATTACHMENT	0	0	6	6

YEAR FIVE

HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
EVT 513	Air pollutants and impacts on the environments	1	0	1	2
EVT 521	Project	0	0	3	3
EVT 501	Applied Geographic Information Systems Technology	2	0	1	3
EVT 515	Industrial air quality control	1	0	1	2
EVT 517	Waste Management and land reclamation	2	0	1	3
EVT 507	Agricultural environmental pollution	1	0	1	2
EVT 527	Green House Effects	1	0	1	2
		8	0	9	17

Electives: Choose one from the following:

EVT 509: Biotechnical Erosion Control Measure	2	0	1	3
EVT 511: Land Use Mapping	1	1	1	3

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
EVT 526	Modelling of the Environment	2	0	1	3
EVT 522	Project	0	0	3	3
EVT 518	Environmental Chemistry II	1	0	1	2
EVT 520	Industrial water pollution	1	0	1	2
EVT 516	Waste Treatment Technology	1	1	1	3
EVT 524	Microbial Processes in Environmental Management	2	0	1	3
EVT 528	Oil Spillage Management and Control	2	0	0	2
		9	1	8	18

Electives: Choose one from the following:				
EVT 510: Process Control and Operation	1	1	0	2
EVT 528: Erosion Dynamics and Modelling	1	1	0	2

8.2 EROSION AND FLOOD CONTROL TECHNOLOGY

YEAR ONE

HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
MTH 101	Elementary Mathematics I	3	1	0	4
ENG 101	Workshop Practice I	0	0	1	1
PHY 101	General Physics I	2	1	1	4
CHM 101	General Chemistry I	2	1	1	4
BIO 101	Biology for Physical Sciences	2	0	1	3
ENG 103	Engineering Drawing I	0	0	1	1
GST 101	Use of English	1	1	0	2

GST 103	Humanities	1	0	0	1
		11	4	5	20

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
MTH 102	Elementary Mathematics II	3	1	0	4
PHY 102	General Physics II	2	1	1	4
CHM 102	General Chemistry II	2	1	1	4
ENG 102	Workshop Practice II	0	0	1	1
ENG 104	Engineering Drawing II	0	0	1	1
GST 102	Use of English	1	1	0	2
GST 110	Science, Engineering and Technology in Society	1	0	0	1
GST 108	Social Science I	1	1	0	2
		10	5	4	19

YEAR TWO

HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
MTH 203	Ordinary Differential Equations	2	1	0	3
CSC 201	Computers and Applications I	2	1	1	4
MTH 211	Statistics and probabilities	2	1	0	3
ENG 209	Engineering Thermodynamics	2	0	1	3
GST 201	Social Sciences II	1	0	0	1
EVT 201	Introduction to tropical soils	1	0	1	2
ENG 205	Introduction to Engineering materials	2	1	1	4
		12	4	4	20

RAIN SEMESTER

Course Code	Course Titl	L	T	P	U
CSC 202	Computers and applications II	2	1	1	4
ACE 202	Soil Mechanics & Behaviour	1	1	1	3

GLY 204	Geomorphology	1	1	0	2
ENG 220	Basic Electrical and Electronics Engineering	2	1	1	4
ENG 222	Engineering Mechanics	2	1	1	4
ENG 212	Engineering Economy	1	1	0	2
EVT 204	Introduction to Environmental Management	1	0	0	1
		10	6	4	20
SIW 200	Long Vacation Industrial attachment	0	0	2	2

YEAR THREE

HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
ENG 315	Principles of Engineering Surveying	1	0	1	2
ACE 301	Hydrology I	2	0	1	3
ENG 309	Fluid Mechanises I	2	0	1	3

ENG 313	Technical report writing and Presentation	1	1	0	2
ENG 305	Strength of Materials I	1	1	1	3
EVT 309	Environmental Geology	2	0	1	3
EVT 307	Watershed Management I	1	0	1	2
EVT 319	Stream Pollution and Control	1	0	1	2
		11	2	7	20

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
EVT 302	Element of River and Coastal Engineering	1	0	1	2
ENG 308	Engineering Analysis	2	1	0	3
EVT 328	Erosion Processes and Classification	1	0	1	2
AGE 302	Soil, water, plant relationship	2	0	1	3
ACE 304	Hydraulics	2	0	1	3

ENG 313	Technical report writing and Presentation	1	1	0	2
ENG 305	Strength of Materials I	1	1	1	3
EVT 309	Environmental Geology	2	0	1	3
EVT 307	Watershed Management I	1	0	1	2
EVT 319	Stream Pollution and Control	1	0	1	2
		11	2	7	20

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
EVT 302	Element of River and Coastal Engineering	1	0	1	2
ENG 308	Engineering Analysis	2	1	0	3
EVT 328	Erosion Processes and Classification	1	0	1	2
AGE 302	Soil, water, plant relationship	2	0	1	3
ACE 304	Hydraulics	2	0	1	3

EVT 330	Watershed Management II	1	0	1	2
EVT 322	Environmental Impact Assessment	1	1	0	2
EVT 308	Land Evaluation for erosion control	1	0	1	2
		11	2	6	19
SIW 300	Long vacation SIWES	0	0	2	2

YEAR FOUR

HARMATTAN SEMESTER

Course Code	Course Titl	L	T	P	U
EVT 403	Photogrammetry and Interpretation	1	1	1	3
EVT 401	Hydrologic Modelling	2	0	1	3
AGE 401	Engineering for land development	2	0	1	3
EVT 407	Waste Treatment Operation Design	1	0	1	2

ACE 401	Soil Mechanics and Foundation	2	1	1	4
EVT 405	Law for Environmental Management	1	1	0	2
EVT 409	Principles of Land Drainage	2	1	0	3
		11	4	5	20

YEAR FOUR
RAIN SEMESTER

Course Code	Course Title	L	T	P	U
SIW 400/401	INDUSTRIAL ATTACHMENT	0	0	6	6

YEAR FIVE
HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
EVT 501	Applied Geographical Information Systems Technology	1	0	1	2
EVT 503	Design of Hydraulic Structures	1	1	0	2

EVT 525	Design of Coastal Protection Systems	1	0	1	2
EVT 519	Sediment Transport	1	1	1	3
EVT 509	Biotechnical Erosion Control Measures	2	0	1	3
EVT 521	Project 1	0	0	3	3
		6	2	7	15

Elective: Choose one course from the following:	EVT 511 Land Use Planning	1	1	1	3
	EVT 517 Waste management and Land Reclamation.	2	0	1	3

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
EVT 528	Erosion Dynamics and Modelling	1	1	0	2
EVT 530	Wind Erosion and Control	1	1	0	2
EVT 514	Management and Maintenance of Erosion Control Works	1	0	1	2
EVT 534	Design of Flood Control Systems	2	1	0	3

EVT 518	Land Degradation Processes and Management	2	0	1	3
EVT 532	Design of Gully Erosion Control Works	1	1	0	2
EVT 522	Project II	0	0	3	3
		8	4	5	17

Electivies: Choose one course from the following: EVT 504: Water quality monitoring and management		1	0	2	3
EVT 526:	Modelling of the Environment	2	0	1	3

8.3 GEO-ENVIRONMENTAL TECHNOLOGY

YEAR ONE
HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
MTH 101	Elementary Mathematics I	3	1	0	4
ENG 101	Workshop Practice I	0	0	1	1
PHY 101	General Physics I	2	1	1	4

CHM 101	General Chemistry I	2	1	1	4
BIO 101	Biology for Physical Sciences	2	0	1	3
ENG 103	Engineering Drawing I	0	0	1	1
GST 101	Use of English	1	1	0	2
GST 103	Humanities	1	0	0	1
		11	4	5	20

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
MTH 102	Elementary Mathematics II	3	1	0	4
PHY 102	General Physics II	2	1	1	4
CHM 102	General Chemistry 11	2	1	1	4
ENG 102	Workshop Practice 11	0	0	1	1
ENG 104	Engineering Drawing 11	0	0	1	1
GST 102	Use of English	1	1	0	2

GST 110	Science, Technology and Society	1	0	0	1
GST 108	Social Science 1	1	1	0	2
		10	5	4	19

YEAR TWO
HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
MTH 203	Ordinary Differential Equations 1	2	1	0	3
CSC 201	Computers and Applications 1	2	1	1	4
MTH 211	Statistics and Probabilities	2	1	0	3
GST 201	Social Sciences 11	1	0	0	1
GLY 201	Introductory Geology 1	2	1	0	3
EVT 203	Environmental Meteorology	2	0	1	3
ENG 209	Engineering Thermodynamics	2	0	1	3
		13	4	3	20

YEAR TWO
RAIN SEMESTER

Course Code	Course Title	L	T	P	U
CSC 202	Computers and Applications 11	2	1	1	4
MTH 202	Mathematical Methods	2	1	0	3
GLY 202	Introductory Geology 11	1	1	1	3
EVT 202	Elementary Photogrammetry	1	0	1	2
EVT 212	Environmental Geophysics	2	1	0	3
EVT 216	Maps and Map Making	1	0	1	2
GLY 204	Geomorphology	1	1	0	2
		10	5	4	19
SIW 200	Long Vacation Industrial Attachment	0	0	2	2

YEAR THREE
HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
ENG 315	Principles of Engineering Surveying	1	0	1	2
ACE 301	Hydrology I	2	0	1	3
EVT 311	Natural Resources Survey	1	0	1	2
EVT 315	Introductory Hydrogeology	2	0	0	2
GLY 303	Geo-Environmental Hazards	3	0	1	4
EVT 307	Watershed Management I	1	0	1	2
EVT 305	Principles of Remote Sensing and GIS	1	0	1	2
ENG 313	Technical report writing and presentation	1	1	0	2
		12	1	6	19

YEAR 3

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
EVT 302	Elements of River and Coastal Engineering	1	0	1	2
EVT 324	Planning and Rural Environment Management	1	1	0	2
EVT 304	Air Photo Interpretation	1	0	1	2
GLY 304	Environmental Geology/ Geotechniques	2	0	1	3
EVT 318	Climatology	2	0	1	3
EVT 316	Ecology and Ecosystem	1	1	0	2
EVT 322	Environmental Impact Assessment	1	1	0	2
EVT 326	Digital Image Processing	2	0	1	3
		11	3	5	19
SIW 300	Long vacation industrial attachments	0	0	2	2

YEAR FOUR

HARMATTAN SEMESTER

Course Code	Course Title	L	T	P	U
EVT 411	Environmental Economics	2	1	0	3
AGE 401	Engineering for Land Development	2	0	1	3
EVT 409	Principles of land drainage	2	1	0	3
EVT 401	Hydrological Modelling	2	0	1	3
EVT 415	Contaminant Hydrogeology	2	1	0	3
EVT 405	Law for Environmental Management	1	1	0	2
EVT 419	Remote Sensing Applications I	2	0	1	3
		13	4	3	20

YEAR FOUR

RAIN SEMESTER

Course Code	Course Title	L	T	P	U
SIW 400/401	INDUSTRIAL ATTACHMENT	0	0	6	6

YEAR 5:
HARMATTAN SEMESTER

Course Code:	Course Title	L	T	P	U
EVT 501	Applied Geographic information Systems Technology	1	0	1	2
EVT 505	Remote Sensing Applications II	1	0	2	3
EVT 513	Air Pollutants and Impacts in the Environment	1	0	1	2

9.0 GENERAL INFORMATION

9.1 THE UNIVERSITY WEIGHTING SYSTEM

The University operates at the moment an equal weighting system of 20% for each of the five year programme levels in the assessment of the overall performance of every student. The performance of students are classified on the basis of the Grade Point Average (GPA) evaluated from the Total Grade Point (TGP) based on result's grades obtained and Total Number of (Credit) Units (TNU). The Cumulative Grade Point Average (CGPA) in the final year of the programme is used for the degree classification as follows:

CGPA	Class of Degree
4.50 - 5.00	First Class (Hon)
3.50 - 4.49	Second Class Upper (Hon)
2.40 - 3.49	Second Class Lower (Hon)
1.50 - 2.39	Third Class (Hon)
1.00 - 1.49	Pass

9.2 ACADEMIC PERFORMANCE

Students that consistently make CGPA less than 1.00 at the end of second year of the programme may be asked to withdraw from the University after initial written warning by the Registrar on poor academic performance.

9.3 EXAMINATION MALPRACTICE

Examination offences depending on the gravity may attract outright rustication or expulsion and imprisonment for 21 years. Culprits are normally gazetted for circulation to all Nigerian Universities. Students are warned to abstain from any form of examination offense in order not to ruin their career in life.

9.4 CULTISM

Students are strongly warned and banned from joining or forming any cultic group in the campus. It is a criminal offence. The sanction is expulsion from the University.

9.5 STUDENTS' ASSOCIATION

Students of the Department are encouraged to lawfully form or belong to students' chapter of the Nigerian Environmental Society (NES).

9.6 CORRESPONDENCE

All correspondence should be sent to the HEAD, Department of Environmental Technology, School of Engineering and Engineering Technology, Federal University of Technology Owerri, P. M. B. 1526 OWERRI, IMO STATE, Nigeria Phone: 083-230974, 233564, 230974 Telegrams:FEDUNITECH
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