



**NATIONAL BOARD FOR TECHNICAL EDUCATION**

**NATIONAL DIPLOMA (ND)**

**IN**

**TRANSPORTATION PLANNING AND MANAGEMENT**

**CURRICULUM AND COURSE SPECIFICATION**

## **NATIONAL DIPLOMA (ND) IN TRANSPORTATION PLANNING AND MANAGEMENT**

### **GENERAL INFORMATION**

#### **GOALS:**

The programme is designed to produce technician in transportation planning and management, capable of assisting professionals in the transport industry.

#### **OBJECTIVES:**

At the end of this programme the student should be able:

- a) To appreciate the purpose of transportation planning and management in national development
- b) Understand the various levels of transportation planning, operation and management
- c) Understand the various models of transport and their interrelationships.
- d) Understand all type of transport facilities and their requirements
- e) Understand various transportation problems and their solutions
- f) Conduct elementary traffic survey and a write report
- g) Design simple transportation facilities
- h) Partake in the construction of transport infrastructure facilities
- i) Manage small transport outfit
- j) Identify and explore investment opportunities in the transport industries
- k) Understand the various models in Transportation Planning
- l) Understand the various laws and regulations guiding the operations and management in the transportation systems.

#### **ADMISSION REQUIREMENTS OF THE PROGRAMME:**

Candidate who desire to be admitted into the programme should possess:

- (a) Five GCE 'O' Level or WASC or SSSC/NECO or NTC/ANTC with credit passes in relevant subjects to the programme, i.e., Mathematics, English Language and Geography and any two from the following – Physics, Chemistry, Economics, Government /History, Technical Drawing and Biology/Agricultural Science/Health Science
- (b) Candidate must obtained the approve minimum cut-off mark in UTME.

## **PROGRAMME STRUCTURE:**

The National Diploma in Transportation Planning and Management is a two-year programme of four semesters, each of 17 weeks duration out of 17 weeks, 15 weeks for lectures, while two weeks are for registration and examination. A minimum of 4 months of Supervised Industrial Work Experience Scheme (SIWES) is mandatory at the end of the first year ND I.

## **STRUCTURE OF THE CURRICULUM:**

The curriculum of the ND programme consists of four main components. These are:

- i) General Studies/Education
- ii) Foundation Courses
- iii) Professional Courses
- iv) Supervised Industrial Work Experience Scheme (SIWES).

The General Studies Education components shall include courses in:

English Language and Communication, History, Citizenship Education which are mandatory, others which include General Sciences. These are compulsory.

**Foundation Courses:-** include courses in Economics, Mathematics, Pure sciences, technical drawing, statistics, entrepreneurship etc. These courses should constitute a maximum of 15% of the total contact hours for the programme.

**Professional Courses:** are courses, which give the student the theory and practical skills in transportation planning and management which he or she needs to practice. These should account for a maximum of 70% of the contact hours of the programme.

**Supervised Industrial Work Experience Scheme (SIWES)** shall be taken during the long vacation following the end of the second semester of the first year. See details on SIWES below.

## **CONDITIONS FOR THE AWARD OF THE ND**

### **ACCREDITATION OF THE PROGRAMME:**

For the programme to qualify for the award of National Diploma (ND), programme, it should have been accredited by the National Board for Technical Education.

### **FINAL YEAR PROJECT:**

Final year students of the ND programme are expected to carry out a project work, which should be on individual basis. The project should as much as possible be something that is implementable or marketable. Project reports should be properly supervised and well presented. The departments offering the programme should make its own arrangement of schedules for project work.

### **REQUIRED CREDIT FOR GRADUATION**

Institutions offering accredited programmes will award the National Diploma to candidates who successfully completed the programme after passing prescribed coursework, examinations, diploma project and the supervised industrial work experience. Such candidates should have completed a minimum of 120 and maximum 140 credit units.

### **GUIDANCE NOTES FOR TEACHERS TEACHING THE PROGRAMME**

The new curriculum is drawn in course units. This is in keeping with the provisions of the National Policy on Education which stresses the need to introduce the semester credit units which will enable a student who so wishes to transfer the units already completed in an institution of similar standard from which he/she is transferring. In designing the units, the principle of the modular system by product has been adopted; thus making each of the professional modules, when completed provide the student with technical skills, which can be used for employment purposes.

As the success of the credit unit system depends on the articulation of the programme between the institution and industry, the curriculum content has been written in behavioural objectives, so that it is clear to all stakeholders what the diplomats of the programme have learnt. There is a slight departure in the presentation of the performance based curriculum which requires the conditions under which the performance are expected to be carried out and the criteria for the acceptable levels of performance. It is a deliberate attempt to further involve the staff of the department teaching the programme to write their own curriculum stating the conditions under which the performance can take place and to follow that with the criteria for determining an acceptable level of performance.

Departmental submission on the final curriculum should be approved by the Academic Board of the institution.

Our aim is to continue to see to it that a solid internal evaluation system exists in each institution for ensuring minimum standard and quality of education in the programmes offered throughout the polytechnic system.

The teaching of the theory and practical work should, as much as possible, be integrated. Practical exercises, especially those in professional courses and laboratory work, should not be taught in isolation from the theory. For each course, there should be a balance of theory to practice in the ratio of 60:40.

Normally, continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

### **CLASSIFICATION OF DIPLOMA TO BE AWARDED**

Diploma should be awarded in four classes for the ND programme.

- i) Distinction - CGPA of 3.50 and above
- ii) Upper Credit - CGPA of 3.00 – 3.49
- iii) Lower Credit - CGPA of 2.50 – 2.99
- iv) Pass - CGPA of 2.00 – 2.49

### **GUIDELINES ON SIWES PROGRAMME**

For the smooth operation of the SIWES the following guidelines shall apply:

#### **GRADING OF SIWES**

To ensure uniformity of grading scales, the institution should ensure that the uniform grading of students' work, which has been agreed to by all polytechnics, is adopted.

#### **The Institution Based Supervisor**

The institution based supervisor should initial the log book during each visit. This will enable him to check and determine to what extent the objectives of the scheme are being met and to assist students having any problems regarding the specific assignments given to them by their industry-based supervisor.

#### **Frequency of Visit**

Institution should ensure that students placed on attachment are visited within one month of their placement. Other visits shall be arranged so that:

- i) there is another visit six weeks after the first visit; and
- ii) a final visit in the last month of the attachment.

### **Responsibility for Placement of Students**

- a) Institution offering the ND programme shall arrange to place the students in industry. By the end of second semester the first academic session, six copies of the master list showing where each student has been placed shall be submitted to the Executive Secretary, NBTE who shall, in turn, authenticate the list and forward it to the Industrial Training Fund, Jos.
- b) The Placement Officer should discuss and agree with industry on the following:-
  - i) a task inventory of what the students should be expected to experience during the period of attachment. It may be wise to adopt the one already approved for each field.
  - ii) the industry-based supervisor of the student during the period, likewise the institution-based supervisor.
  - iii) the final grading of the student during the period of attachment should be weighted more on the evaluation by his industry-based supervisor.

### **Evaluation of Students during the SIWES**

In the evaluation of the student, cognizance should be taken of the following items:

- a) Punctuality
- b) Attendance
- c) General Attitude to Work
- d) Respect for Authority
- e) Interest in the field/technical area
- f) Technical competence as a potential technician in the field.

### **Stipend for Students in SIWES**

The rate of stipend payable shall be determined from time to time by the Federal Government after due consultation with the Federal Ministry of Education, the Industrial Training Fund and NBTE.

### **SIWES as a Component of the Curriculum**

The completion of SIWES is important in the final determination of whether the student is successful in the programme or not. Failure in the SIWES is an indication that the student has not shown sufficient interest in the field or has no potential to become a skilled technician in the field. The SIWES should be graded on a fail or pass basis. Where a student has satisfied all other requirements but failed SIWES, he or she may only be allowed to repeat another four months SIWES at his own expense.

## CURRICULUM TABLE

### NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT ND I - FIRST SEMESTER

S/N	Course Code	Course	L	P	CU	CH	Status
1.	GNS 101	Use of English	2	-	2	2	Mandatory
2.	MTH 111	Mathematics	2	-	2	2	Foundation
3.	STA 111	Introduction to Statistics	2	-	2	2	Mandatory
4.	COM 101	Introduction to Computers	2	2	4	4	Foundation
5.	TPM 111	Introduction to Transport and Society	2	-	2	2	Core
6.	TPM 112	History of Transport	2	-	2	2	Core
7.	SUG 101	Introduction to Basic Principles in Surveying I	2	3	5	5	Foundation
8.	TPM 113	Introduction to Transport Planning	2	-	2	2	Core
9.	MEC 101	Technical Drawing	1	2	3	3	Foundation
10	TPM 114	Transportation Planning Design (Design Studio)	1	3	4	4	Core
11.	EED 126	Entrepreneurial Development I	2	-	2	2	Foundation
12.	GNS 127	HIV/AIDs, Drugs abuse and Citizenship Education	2	-	2	2	Mandatory
		<b>TOTAL</b>	<b>22</b>	<b>10</b>	<b>32</b>	<b>32</b>	



**NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT**  
**ND I - SECOND SEMESTER**

S/N	Course Code	Course	L	P	CU	CH	Remarks
1.	GNS 102	Communication in English	2	-	2	2	Mandatory
2.	SUG 102	Introduction to Basic Principles in Surveying II	2	3	5	5	Foundation
3.	COM 123	Computer Packages	2	4	6	6	Foundation
4.	TPM 121	Research Methods	2	-	2	2	Foundation
5.	TPM 122	Introduction to Transport Technology	2	-	2	2	Core
6.	TPM 123	Introduction to Road, Rail and Pipeline Transport	3	-	3	3	Core
7.	TPM 124	Introduction to Transport Economics	2	-	2	2	Core
8.	TPM 125	Intra-Urban Transport (Design Studio)	1	3	4	4	Core
9.	PHE 103	Physical and Health Education	1	2	3	3	Mandatory
10.	GNS 128	Citizenship Education II	2	-	2	2	Mandatory
11.	TPM 126	Urban Transportation Planning	2	1	3	3	Core
		<b>TOTAL</b>	<b>21</b>	<b>13</b>	<b>34</b>	<b>34</b>	

**NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT**  
**ND II - FIRST SEMESTER**

S/N	Course Code	Course	L	P	CU	CH	Remarks
1.	GNS211	Introduction to Psychology	2	-	2	2	Mandatory
2.	GNS 201	Use of English II	2	-	2	2	Core
3.	TPM 211	Mass Transit Operation and Management	2	1	3	3	Core
4.	TPM 212	Introduction to Air and Maritime Transport	2	-	2	2	Core
5.	TPM 213	Population and Urbanization	2	-	2	2	Core
6.	TPM 214	Rural Transportation Planning	2	2	4	4	Core
7.	TPM 215	Road Freight and Passenger Transport	2	1	3	3	Core
8.	TPM 216	Traffic Survey Methods	1	2	3	3	Core
9.	TPM 217	Land Transport facilities Design Studio III	1	3	4	4	Core
10.	EED 216	Entrepreneurship Practice	1	2	3	3	Mandatory
		<b>TOTAL</b>	<b>17</b>	<b>11</b>	<b>28</b>	<b>28</b>	

**NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT**  
**ND II - SECOND SEMESTER**

S/N	Course Code	Course	L	P	CU	CH	Remarks
1.	TPM 221	Transport Finance	2	-	2	2	Core
2.	TPM 222	Transport System Management	2	-	2	2	Core
3.	TPM 223	Professional Ethics	2	-	2	2	Core
4.	TPM 224	Water Transportation Planning( Design Studio IV)	1	2	3	3	Core
5.	TPM 225	Project	1	3	4	4	Core
6.	TPM 226	Transport Operations and Management	2	-	2	2	
7.	EED 216	Entrepreneurial Development	1	2	3	3	Core
8.	GNS 202	Communication in English	2	-	2	2	Mandatory
		<b>TOTAL</b>	<b>13</b>	<b>7</b>	<b>20</b>	<b>20</b>	

<b>PROGRAMME:</b>	<b>NATIONAL DIPLOMA IN TRANSPORT PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND I - FIRST</b>		
<b>COURSE TITLE:</b>	<b>INTRODUCTION TO TRANSPORT AND SOCIETY</b>		
<b>DURATION:</b>	<b>2hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 0 hr</b>
<b>CREDIT UNIT:</b>	<b>2</b>		
<b>COURSE CODE:</b>	<b>TPM 111</b>		
<b>GOAL:</b>	<b>This course is designed to enable the student understand the relationship between transportation and societal development</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of the course, the student should be able to:</b>		
	1.0	Understand the concept of society	
	2.0	Know the factors that determine societal growth and development	
	3.0	Understand the need for transportation planning in societal development	
	4.0	Understand the effect of population on transportation development	
	5.0	Recognize the employment opportunities in transport sector	
	6.0	Understand the influence of culture and politics on transportation development	
	7.0	Understand the effect of transport development on the society	
	8.0	Understand government policies on transport development	

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: INTRODUCTION TO TRANSPORT AND SOCIETY</b>			<b>COURSE CODE: TPM 111</b>		<b>CONTACT HOURS: 2 - 0</b>	
<b>GOAL: This course is designed to enable the student understand the relationship between transportation and societal development</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
	GENERAL OBJECTIVE 1.0: Understand the concept of society					
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1 Define society 1.2 Identify societal needs 1.3 Explain the need for transportation	i. Define society ii. Highlight societal needs i. Outline the function of transportation in society	Books Articles in Journal			
	GENERAL OBJECTIVE 2.0: Know the Factors that Determine Societal Growth and Development					
2	2.1 Different between growth and development 2.2 Identify the factors that determine societal development 2.3 Explain the significance of each factor towards societal growth 2.4 Describe the social-economic effect of transportation system on society	i. Define the concept of growth and development ii. Identify the indicators of societal development iii. Outline the importance of each factor in societal development iv. State the problem of poor	Journal Published Articles in Journals			

		transportation system on the society				
GENERAL OBJECTIVE 3.0: Understand the need for Transportation Planning in Societal Development						
3	3.1 Define transportation Planning 3.2 Explain the features of various modes of transport 3.3 Explain the role of various forms of transport in meeting societal needs	i. Explain the nature and scope of transportation planning ii. Outline the features of various modes and their role in societal development	Government Publication Federal Ministry of Transportation (FMT) Handbooks			
GENERAL OBJECTIVE 4.0: Understand the Effect of Population on Transportation Planning						
4-5	4.1 Define the concept of Demography 4.2 Explain the determining factors of population 4.3 Explain the relationship between population dynamics and community transport cost 4.4 Outline the nature of transport problem in a given community	i. Define Demography ii. Highlight the determinants of population size iii. Outline the direct impact of populations on transport modes iv. Explain and give examples of transportation problem and solution	Books Documentaries			
GENERAL OBJECTIVE 5.0: Recognize the Employment Opportunities in Transport Sector						
6	5.1 Define employment 5.2 Explain employment opportunities in	i. Define employment ii. Outline formal	Books Journals and Other Relevant Materials			

	transport sector 5.3 State advantages of globalization on transport sector employment	and informal sectors of employment iii. Identify employment opportunities in transport sector iv. Highlight the implication of globalization on transport sector on planning				
GENERAL OBJECTIVE 6.0: Understand the Influence of Culture and Politics on Transport Development						
7-8	6.1 Define culture 6.2 Explain components of culture 6.3 Identify cultural Indices that influence transport decisions 6.4 Explain political influence on transport development	i. Define culture ii. Explain mutual and non-mutual components of culture iii. Explain how cultural tendencies can influence transport decision iv. Outline government policies on transport development v. Outline the role of transport labour union in transport development	Books Journals and Other Relevant Materials			

	GENERAL OBJECTIVE 7.0: Understand the Effects of Transport Development on the Society					
9	7.1 State the effect of transportation on societal growth and development	i. Explain the effect of transportation in societal development	Books Journals Government Publication Internet			
	GENERAL OBJECTIVE 8.0: Understand Government Policies on Transport Development					
10	8.1 Examine provision for transport sector in the past national development plans 8.2 Examine the present effort of government in transport policy formulation	i. Trace the history of natural transportation policy ii. Explain the effect of transportation policy on the quality of life	Books Journals Government Publication Internet			

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.



<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND I -FIRST</b>		
<b>COURSE TITLE:</b>	<b>HISTORY OF TRANSPORTATION</b>		
<b>DURATION:</b>	<b>2hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 0hr</b>
<b>CREDIT UNIT:</b>	<b>2</b>		
<b>COURSE CODE:</b>	<b>TPM 112</b>		
<b>GOAL:</b>	<b>The course is designed to equip the student with the understanding of the history of Transport development and its application to transportation planning and management.</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of this course, the student should be able to:</b>		
	1.0 Understand the history of transportation in the pre-industrial era.		
	2.0 Know the levels of transport development during industrial revolution.		
	3.0 Know the development of Rail, Water, Road, Air and Pipeline Transport.		
	4.0 Understand the development of Communication in Nigeria and its influence on Transport.		
	5.0 Know the role of Communication/Transport on the spatial distribution and interaction in Nigeria.		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: HISTORY OF TRANSPORTATION</b>			<b>COURSE CODE: TPM 112</b>		<b>CONTACT HOURS: 2-0</b>	
<b>GOAL: This course is designed to equip the student with the understanding of the history of transport development and its application to transportation planning and management.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
GENERAL OBJECTIVE 1.0: Understand the history of transportation in the pre-industrial era.						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1 Explain transport development during stone and bronze ages etc. 1.2 Compare the changes that occurred in each age. 1.3 Identify the modes of Transport during the ages. 1.4 Describe transport development during the classical era. 1.5 Compare transport development planning during medieval, renaissance and baroque periods.	i. Define transportation ii. Trace the history of transport development since pre-industrial period. iii. Classify Transportation types and modes.	i. Textbooks, Journals and other relevant materials.			
GENERAL OBJECTIVE 2.0: Know the levels of transport development during Industrial Revolution.						
2	2.1 Define industrialization 2.2 Highlight the various modes of transport available during Industrial Revolution period. 2.3 Explain Industrial Revolution and its effects on various modes of transport.	i. Define industrialization. ii. Explain the effects of industrial Revolution on transport development. iii. Highlight the	Books, Journals and other relevant materials			

	2.4 Examine the various modes of transport and their effects on the era.	various modes of Transport available during the era. iv. Describe the various modes of transport and their impact on the era.				
GENERAL OBJECTIVE 3.0: Know the development of Rail, Water, Road, Air and Pipeline Transport						
3	3.1 Explain the evolution of the various modes of transport as indicated above. 3.2 Explain the development process of the various modes of transport. 3.3 State the importance of this development to settlements.	i. Explain the various modes of transport. ii. State the importance of transport modes to settlements.	Textbooks, Journals and Other relevant materials			
GENERAL OBJECTIVE 4.0: Understand the development of communication in Nigeria and its influence on transport.						
4	4.1 Trace the history of Telecommunication Development in Nigeria. 4.2 Identify the effects of Telecommunication development on Urban growth in Nigeria. 4.3 State the importance of telecommunication in traffic management in Nigeria.	i. Explain telecommunication development in Nigeria ii. State the advantages of telecommunication in Nigeria.	Books, Journals and Other relevant Materials			

	GENERAL OBJECTIVE 5.0: Know the role of Communication/Transport on the spatial distribution and interaction in Nigeria					
5	5.1 Define Communication. 5.2 identify the effect of Transport and Communication on Urban Development. 5.3 Examine the interaction between Urban land uses, communication and transport.	i. Explain the nature and character of communication ii. State the advantages of transport and communication in Nigeria Urban areas.	Books, Journals and other relevant journals			

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

**PROGRAMME TITLE:** NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT

**SEMESTER:** ND I-FIRST

**COURSE TITLE:** INTRODUCTION TO TRANSPORT PLANNING

**DURATION:** 2hrs            **THEORY: 2hrs**                            **PRACTICAL: 0hr**

**CREDIT UNIT:** 2

**COURSE CODE:** TPM 113

**GOAL:** The course is designed to enable students understand the need for transport planning and the relationships between land use and transport.

**GENERAL OBJECTIVES:** On completion of this course, the student should be able to:

- 1.0 Know the meaning of Transport Planning
- 2.0 Understand modes of transport
- 3.0 Understand trip generation attraction and distribution
- 4.0 Know transport demand and how it affects transport planning
- 5.0 Understand factors of transport demand
- 6.0 Understand network analysis
- 7.0 Understand various transport terminal interface
- 8.0 know transport services
- 9.0 Know organisations involved in transport planning
- 10.0 Know the process of vehicle licensing
- 11.0 Know Nigeria transport policy

<b>PROGRAMME: NATIONAL DIPLOMA IN INTERIOR DESIGN</b>						
<b>COURSE: INTRODUCTION TO TRANSPORT PLANNING</b>			<b>COURSE CODE:TPM 113</b>	<b>CONTACT HOURS: 2-0</b>		
<b>GOAL: This course is designed to enable student understand the need for transport planning and the relationships between land use and transport.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
GENERAL OBJECTIVE 1.0: Know the meaning of transport planning.						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1 Define Transport Planning 1.2 Explain the need for Transport Planning 1.3 Analyze the scope of Transport Planning 1.4 Outline Transport Planning Process.	i. Explain Transport Planning. ii. Illustrate Transportation Planning Process by: - Defining the planning area -Identify transportation problem of the area etc	Books, journals and other relevant publications			
GENERAL OBJECTIVE 2.0: Understand modes of transport						
2	2.1 Explain modes of transport 2.0 Explain the characteristics of modes of transport	i. Define modes of transport ii. Explain the characteristics of transport modes	Relevant Books, Journals On Transport			
GENERAL OBJECTIVE 3.0: Understand trip generation, attraction and distribution						
3	3.1 Explain the need for travel survey in transport planning. 3.2 Explain various travel survey methods	i. Define transport management ii. Explain the operation and management of	i. Books, Journals and other relevant publications			

	3.3 Explain various data needed in travel survey.	different modes of transport iii. Highlight the management role in transport organization				
GENERAL OBJECTIVE 4.0: Know transport demand and how it affect transport planning						
4	4.1 Explain O and D matrix data 4.2 Explain the relevance of O and D matrix data in transport planning 4.3 Explain the process of O and D matrix data analysis.	i. Explain O and D matrix data and explain its relevance to transport planning ii. Demonstrate and work out practical examples of O and D matrix data analysis.	Books, Journals and other relevant publications			
GENERAL OBJECTIVE 5.0: Understand factors of transport demand						
5	5.1 Explain Travel forecasting models, Trip generation, Trip attrition distribution and modal split. 5.2 Highlight the relevance of each of the above to transport planning. 5.3 Explain the best marketing strategy	i. Define and explain; travel forecasting model, trip generation, trip distribution and modal split and their relevance to transport planning. ii. Explain traffic assignment.	Books, Journals and other relevant publications			
GENERAL OBJECTIVE 6.0: Understand network analysis						
6	6.1 Define network analysis 6.2 Explain the calculation of network analysis	i. Define network analysis ii. Explain the calculation of	Relevant books and Journals on Transport Planning and Engineering			

		network analysis				
GENERAL OBJECTIVE 7.0: Understand various transport terminal interface						
7	7.1 Explain urban connectors 7.2 Explain the concept of park and kiss 7.3 Explain transit-oriented development	i. Define and explain urban connectors ii. Explain park and ride, park and kiss and the importance iii. Explain transit-oriented development	Relevant books and Journals on Transport Planning and Design			
GENERAL OBJECTIVE 8.0: Know transport services						
8	8.0 Transport Services 8.1 Explain transport services 8.2 Explain types of transport services	i. Define transport services ii. Explain types of transport services	Relevant books, Journals on Transport Planning and Traffic Engineering			
GENERAL OBJECTIVE 9.0: Know organisations involved in transport planning						
9-10	9.1 Identify characteristics of the different transportation mode. 9.2 Highlight levels of transport planning 9.3 Explain transport demand 9.4 Highlight factors of transport demand 9.5 Enumerate various factors that makes a person/ company	i. Examine various transport modes and their characteristics. ii. Explain role of govt. /private organization against stated municipal and professional bodies. Explain the following: (i) price (ii) passengers	Books, Journals, and other relevant publications			



		Income (iii) speed of service (iv) quality of service: Frequency Standard of service Comfort Safety Reliability				
GENERAL OBJECTIVE 10.0: Know the process of vehicle licensing						
11	10.1 Define licensing 10.2 Highlight licensing authorities	i. Define licensing ii. List functions of licensing authority	Relevant books, Journals on Transport Organisation and Management			
GENERAL OBJECTIVE 11.0: Know Nigeria transport policy						
12	11.1 Explain Transport Policy 11.2 Explain the components of transport policy	i. Define transport policy ii. Explain the components of transport policy	Relevant books on Transport Planning, Policy and Management			

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

**PROGRAMME:** NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT

**SEMESTER:** ND I - FIRST

**COURSE TITLE:** TRANSPORTATION PLANNING DESIGN (DESIGN STUDIO)

**DURATION:** 4hrs      **THEORY:** 1hr      **PRACTICAL:** 3hrs

**COURSE CODE:** TPM 114

**CREDIT UNIT:** 4

**GOAL:** This course is designed to enable the student carry out origin–destination (o-d) survey

**GENERAL OBJECTIVES:** On completion of the course, the student should be able to:

- 1.0 Know the objectives of Transportation Planning Design
- 2.0 Know how to identify traffic flow in an area
- 3.0 Know basic Traffic Survey Principles and Procedures
- 4.0 Understand how to Conduct Traffic Surveys
- 5.0 Know how to Conduct Volumetric Survey
- 6.0 Know how to Analyse Traffic Survey Data
- 7.0 Know how to prepare Transportation Plan for Study Area

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: TRANSPORTATION PLANNING DESIGN (DESIGN STUDIO)</b>			<b>COURSE CODE: TPM 114</b>		<b>CONTACT HOURS: 1 - 3</b>	
<b>GOAL: This course is designed to enable the student carryout origin-destination (o-d) survey</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>			<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>			
	GENERAL OBJECTIVE 1.0: Know the objectives of transportation planning design					
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1 Explain the need to design a functional transport system 1.2 Describe how to carry out traffic surveys	i. Explain transportation planning State various studies needed ii. Explain how to conduct traffic surveys	Books, Journal Traffic Counter Local Maps Base Maps	1.1 Identify a case study 1.2 Carry out traffic count 1.3 Demonstrate how to use traffic counter 1.4 Analyse traffic survey data and present them in suitable format 1.5 Use data to design a transport improvement plan	i. Select study area ii. Guide to conduct traffic survey iii. Present data report iv. Evaluate the report	Traffic Counter Maps
	GENERAL OBJECTIVE 2.0: Know how to identify traffic flow in an area					
2-3	2.1 Identify Traffic flow in an area 2.2 Describe the general nature of traffic 2.3 Explain traffic characteristics 2.4 Identify traffic problems and causes	i. Explain traffic flow ii. Explain types of traffic iii. Explain causes of traffic problems	Books, Journals			
	GENERAL OBJECTIVE 3.0: Know basic traffic survey principles and procedures					
4	3.1 List basic terminologies in traffic survey 3.2 Explain traffic	Explain traffic zones, cordon line, O-D, generations and distributor	Books, Journal Maps	Identify a case study Carry out O-D Write report	Select traffic cordon Guide O-D Survey Supervise the survey Evaluate the	Maps

	generators and attractions 3.3 State the methods of carrying out O-D surveys	Explain types of traffic interviews			assignment	
GENERAL OBJECTIVE 4.0: Understand how to conduct traffic surveys						
5-6	4.1 Divide study area into traffic zones 4.2 Establish suitable cordon line 4.3 Take inventory of directing units 4.4 Conduct home interview	i. Explain how to delimit traffic zones ii. Explain how to establish cordon line iii. Explain how to conduct home interview iv. outline content of home interview questionnaire	Books, Journal Camera	4.1 Select a study area 4.2 Carry out home interview 4.3 Write report	Give assignment Guide on how to carry out survey Evaluate assignment	Camera
GENERAL OBJECTIVE 5.0: Know how to conduct volumetric survey						
7-8	5.1 Explain volumetric surveys 5.2 Explain manual and automatic methods of volumetric count 5.3 Explain how to carry out fleet survey according to type of vehicles	i. Explain P. C. U ii. Explain how to generate P. C. U. iii. Explain how to carry out traffic count	Traffic counter Books, Journals	Conduct volumetric survey	Give assignment Guide how to carry out volumetric survey Evaluate assignment	Traffic counter
GENERAL OBJECTIVE 6.0: Know how to analyse traffic survey data						
9	6.1 Explain How To Collate Traffic Data 6.2 Explain Traffic Data Analysis 6.3 Explain how to project traffic survey data	i. Explain the need to collate data from various locations	Books, Journals	6.1 Collect traffic data 6.2 Analyze the data 6.3 Interpret the data 6.4 Write report	Give Assignment Guide on how to carry out simple data analysis Evaluate the assignment	Traffic counter
GENERAL OBJECTIVE 7.0: Know to prepare transportation plan for study area						

10-12	<p>7.1 Explain how to establish a stream line</p> <p>7.2 Explain how to establish a screen line count</p> <p>7.3. Develop appropriate desire line</p> <p>7.4 Establish major road network</p> <p>7.5 Prepare a transportation plan</p>	<p>i. Explain what is a screen line</p> <p>ii. Explain road network</p> <p>iii. Outline the content of a transport flow plan</p>	Books, Journals	<p>7.1 Identify a case study</p> <p>7.2 Carry out screen line count</p> <p>7.3 Prepare a transportation plan</p>	<p>Select a study area</p> <p>Guide to conduct screen line count</p> <p>Evaluate assignment</p>	Traffic counter, vehicle, camera
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Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

<b>PROGRAMME:</b>	<b>NATIONAL DIPLOMA IN TRANSPORT PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND I - SECOND</b>		
<b>COURSE TITLE:</b>	<b>RESEARCH METHODS</b>		
<b>DURATION:</b>	<b>2hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 0hr</b>
<b>COURSE CODE:</b>	<b>TPM 121</b>		
<b>CREDIT UNIT:</b>	<b>2</b>		
<b>GOAL:</b>	<b>This course is designed to enable the student know how to carry out independent research project in transport planning and management</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of the course, the student should be able to:</b>		
	1.0	Know what a research is and how to carry it out	
	2.0	Know the methodology applied in research	
	3.0	Know the various methods of data collection	
	4.0	Know the various methods of data processing	
	5.0	Understand the presentation of research report	

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: RESEARCH METHODS</b>			<b>COURSE CODE: TPM 121</b>		<b>CONTACT HOURS: 2 – 0</b>	
<b>∴ This course is designed to enable the student know how to carry out independent research project in transport planning and management</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
GENERAL OBJECTIVE 1.0: Know what a research is and how to carry it out						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1-2	1.1 Define the following terms: Research, Scientific Method, theory and Hypotheses Describe various types of research e.g. descriptive, exploratory, experimented and comparative 3 Explain the stages of a Research Hypothesis Justification of the research Data collection and analysis findings etc.	i. Explain elements of research ii. Explain types of research iii. Explain the stages of a research	Books on Research writing Journals Past Project etc.			
GENERAL OBJECTIVE 2.0: Know the methodology applied in research						
3-4	2.1 Define Sampling 2.2 Explain the two major types of sampling: Probability Sampling e.g. random, systematic, stratified and clustered b. Non-probability Sampling e.g. accidental, quota and purposive 2.3 Explain the uses of	i. Explain Sampling ii. Explain major types of sampling iii. Explain the use of sampling in transport planning and management iv. Explain the advantages and disadvantages of	Books, Journals Relevant Publication			

	<p>sampling in transportation planning and management</p> <p>4 State the advantages and disadvantages of probability sampling State the advantages and disadvantages of non-probability sampling</p>	sampling				
GENERAL OBJECTIVE 3.0: Know the various methods of data collection						
5-7	<p>3.1 Define data</p> <p>2 State the types of data: i) Primary and ii) Secondary data Explain the methods of data collection e.g. observation, questionnaire, interview Describe how to design questionnaire for research in transport planning and management</p> <p>5 Explain how to administer questionnaires and conduct interview</p> <p>3.6 Design sample questionnaires for research in transportation planning</p> <p>3.7 Explain questionnaire</p>	<p>i. Define data State types and sources of data</p> <p>ii. Explain methods and roots of data collection</p> <p>iii. Describe questionnaire administration and interview method</p> <p>iv. Guide in the preparation of questionnaire</p>	<p>Books on Research Methods Internet and other Materials</p>			



	administration method					
GENERAL OBJECTIVE 4.0: Know the various methods of data processing						
8-9	<p>Explain Organization of data</p> <p>Explain the grouping of data</p> <p>Explain presentation of data</p> <p>Explain analysis of data</p> <p>Explain the result of data analysis</p>	<p>Explain data processing methods</p>	<p>Books on data processing methods</p>			
GENERAL OBJECTIVE 5.0: Understand the presentation of research report						
10	<p>Explain the general format of a research report :</p> <ul style="list-style-type: none"> <li>-Preliminary contents</li> <li>-Chapter organization</li> <li>-References/ Bibliography</li> </ul>	<p>i. Explain components of a research report</p> <p>ii. Guide student towards report preparation and presentation</p> <p>iii. Facilitate assessment of individual project report submitted by student</p>	<p>Past student Project</p>			

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

**PROGRAMME:** NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT

**SEMESTER:** ND I - SECOND

**COURSE TITLE:** INTRODUCTION TO TRANSPORT TECHNOLOGY

**DURATION:** 2hrs                      THEORY: 2hrs                      PRACTICAL: 0hr

**COURSE CODE:** TPM 122

**CREDIT UNIT:** 2

**GOAL:** This course is designed to expose the student to the basic principles of transport technology

**GENERAL OBJECTIVES:** At the end of the course, the student should be able to:

- 1.0 Understand transport development to date
- 2.0 Understand the influence of transport technology to settlement development
- 3.0 Understand classification of transit
- 4.0 Understand the roles of government in transport safety

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE:INTRODUCTION TO TRANSPORT TECHNOLOGY</b>			<b>COURSE CODE: 122</b>		<b>CONTACT HOURS: 2-0</b>	
<b>GOAL: This course is designed to expose the student to the basic principles of transport technology</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>			<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>			
<b>GENERAL OBJECTIVE 1.0: Understand transport development to date</b>						
<b>Week</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objective</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
1 – 2	1.1 Explain Road Transport 1.2 Explain Water Transport 1.3 Explain Air Transport 1.4 Explain Rail Transport 1.5 Explain Pipeline Transport	i. Explain early development of transport i.e. road, water, rail and pipeline transport	Books, Journals and other relevant materials			
<b>GENERAL OBJECTIVE 2.0: Understand the influence of transport technology to settlement development</b>						
3- 4	2.1 Explain early development of cities 2.2 Explain industrial revolution 2.3 Explain urbanization and city growth	i.Explain historical development of settlements ii. Explain early development of various modes of transport	Books, Journal and other relevant materials			
<b>GENERAL OBJECTIVE 3.0: Understand classification of transit</b>						
5 - 8	3.1 Define transit 3.2 Explain classification by type of usage of transit 3.3 Describe transit mode	i. Explain transport classification and its scope ii. Explain transit mode, system	Books, Journals and other relevant materials			

	3.4 Explain transit system components and transit system operation 3.5 Explain services and characteristics of transit 3.6 State vehicles characteristics and motion 3.7 Explain highway transit mode	components and transit system operation iii. Explain services and characteristics of transit iv.State vehicles characteristics and motion				
GENERAL OBJECTIVE 4.0: Understand the roles of government in transport safety						
9-10	4.1 Explain the roles of government in transport safety and passengers' security 4.2 Explain transport in relations to government and international organizations and NGOS	i. Explain the role of government in: transport safety and passenger security; licensing and environmental ii. Explain transport in relation to local government, international organizations and NGOS	Books, Journals and other relevant materials			

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANGEMENT</b>		
<b>SEMESTER:</b>	<b>ND I - SECOND</b>		
<b>COURSE TITLE:</b>	<b>INTRODUCTION TO ROAD, RAIL AND PIPELINE TRANSPORT</b>		
<b>DURATION:</b>	<b>3hrs</b>	<b>THEORY: 3hrs</b>	<b>PRACTICAL: 0hr</b>
<b>CREDIT UNIT:</b>	<b>3</b>		
<b>COURSE CODE:</b>	<b>TPM 123</b>		
<b>GOAL:</b>	<b>This course is designed to enable the student understand Road, Rail and Pipeline Modes of Transport,</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of the course, the student should be able to:</b>		
	1.0 Know Road, Rail and Pipeline modes of Transport.		
	2.0 Understand the way, terminals and means of Road. Rail and Pipeline Modes of Transport.		
	3.0 Understand mode of operation of Road, Rail and Pipeline.		
	4.0 Understand the infrastructure characteristics of Road, Rail and pipeline modes of transport.		
	5.0 Know the operational characteristics of road, rail and pipeline.		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE TITLE: Introduction to Road, Rail and Pipeline Transport</b>			<b>COURSE CODE: TPM 123</b>		<b>CONTACT HOURS: 3-0</b>	
<b>GOAL: This course is designed to enable the student understand Road, Rail and Pipeline modes of transport.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>			<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>			
GENERAL OBJECTIVE 1.0: Know Road, Rail and Pipeline modes of Transport						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1 Define road transport. 1.2 Explain road development in Nigeria. 1.3 Classify Nigeria Road Network and condition. 1.4 State ownership of Nigeria road network transport. 1.5 Explain Rail network transport. 1.6 Explain Rail development in Nigeria. 1.7 Present Rail network distribution. 1.8 Define pipeline transport. 1.9 Present pipeline network distribution in Nigeria. 1.10 Explain pipeline vanderlization.	i. Define Road Transport. ii. Explain the development of Road Transport in Nigeria. iii. Classify Road into Trunk A, Trunk B and Trunk C. iv. Draw a map of Nigeria showing Road Network. v. Define Rail Transport. vi. Explain Rail development in Nigeria. vii. Explain rail network distribution in Nigeria. viii. Illustrate with map of Nigeria showing Rail Network.	Books, Journals, Maps and other relevant materials			

		<ul style="list-style-type: none"> <li>ix. Define pipeline Transport.</li> <li>x. Explain pipeline network distribution</li> <li>xi. Draw a map of Nigeria showing pipeline network distribution.</li> <li>xii. Explain pipeline vandalization and its effect.</li> </ul>				
GENERAL OBJECTIVE 2.0: Understand the way, terminals and means of Road, Rail and Pipeline modes of Transport.						
2	<ul style="list-style-type: none"> <li>2.1 Define the way, Terminal and means of Road Transport</li> <li>2.2 Define the way Terminal and means of Rail Transport.</li> <li>2.3 Define the lorry, terminal and means of pipeline transport</li> </ul>	<ul style="list-style-type: none"> <li>i Explain the way for road transport.</li> <li>ii List the various terminal for road transport e.g. motor park, car parks, individual parking spaces etc.</li> <li>iii. List the various means for road transport e.g cars, buses, lorry, trucks, bicycle etc.</li> <li>iv. Explain the way for rail transport – rail line and cables.</li> <li>v. State the terminals for rail stations.</li> <li>vi. List the various</li> </ul>	Textbooks Journals and other relevant materials			

		<p>means of rail transport – locomotive engine, light rail, transit, mono rail cable and cable car etc.</p> <p>vii. Explain the way for pipeline transport – pipeline tunnel network.</p> <p>viii. Explain pump station as the motive power of pipeline transport.</p> <p>ix. Explain the following as terminals for pipeline transport, depot production centre and refineries.</p> <p>x. Explain roles of shipping market in maritime industry.</p>				
	GENERAL OBJECTIVE 3.0: Understand mode of operation of Road, Rail and Pipeline.					
3	<p>3.1 Explain methods of operation of road mode</p> <p>3.2 Explain methods of operation of Rail mode.</p>	<p>i. Explain road mode operation as: Been dominated by small – scale operators of</p>	<p>Textbooks, Journals and other relevant materials</p>			



	3.3 Explain methods of operation of pipeline mode	<p>goods and services i.e. door – to door services – operate many terminals – highly unregulated – competent other modes.</p> <p>ii. Explain methods of operation of pipeline modes as follows:</p> <ul style="list-style-type: none"> <li>- Total pipeline network</li> <li>- very long distances</li> <li>- the way is also the carrying limit</li> <li>- operation not flexible</li> <li>- pipeline issue specific</li> <li>- not affected by congestion.</li> </ul>				
<b>GENERAL OBJECTIVE 4.0: Understand the infrastructure characteristics of Road, Rail and Pipeline modes of Transport.</b>						
4	<p>4.1 Describe infrastructure of road mode..</p> <p>4.2 Explain infrastructure characteristics of rail mode.</p> <p>4.3 Explain infrastructure characteristics of pipeline.</p>	<p>i. Differences between mobilization of road mode.</p> <p>ii.classify the following into fixed and mobile infrastructure: - ---</p> <ul style="list-style-type: none"> <li>- Roadway</li> <li>- Highway</li> <li>- Motor vehicle.</li> </ul>	Textbooks, Journals and other relevant materials			

		<p>iii. Explain the following rail infrastructure: - Narrow and standard gauged -Locomotive engines and wagons -Railway station signal.</p> <p>iv. Classify the above into fixed and mobile infrastructure.</p> <p>v. Explain the need to have the following before pipeline transport can take place: -laying &amp; pipes/pipe tunnels network -pumping machine -facilities sorting.</p>				
GENERAL OBJECTIVE 5.0: Know the operational characteristics of Road, Rail and Pipeline Transport.						
5	<p>5.1 Explain the operational characteristics of Road mode.</p> <p>5.2 Explain the operational characteristics of rail mode.</p> <p>5.3 Explain the operational characteristics of pipeline</p>	<p>i. Explain the following for road mode: -terminals may not be necessary -services as deed to the other modes -relative cost of operation etc.</p> <p>ii. Explain the</p>	Textbooks, Journals and other relevant materials			

		<p>following operational characteristics of rail mode:-</p> <ul style="list-style-type: none"> <li>- Low speed</li> <li>- Safety not flexible</li> <li>- -high operational</li> <li>- is high</li> <li>- Not flexible</li> <li>- High operational control</li> <li>- Good for bulky heavy cargo.</li> </ul> <p>iii. Explain that:</p> <ul style="list-style-type: none"> <li>- Pipeline operate on haulage of liquid and gas only</li> <li>- Unidirectional only</li> <li>- Operational cost is very low.</li> </ul>				
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Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANGEMENT</b>		
<b>SEMESTER:</b>	<b>ND I - FIRST</b>		
<b>COURSE TITLE:</b>	<b>INTRODUCTION TO TRANSPORT ECONOMICS</b>		
<b>DURATION:</b>	<b>2hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 0hr</b>
<b>CREDIT UNIT:</b>	<b>2</b>		
<b>COURSE CODE:</b>	<b>TPM 124</b>		
<b>GOAL:</b>	<b>This course is designed to enable the student understand the basic principles of transport economics.</b>		
<b>OBJECTIVES:</b>	<b>On completion of the course, the student should be able to:</b>		
	1.0 Know the basic concept of transport economics.		
	2.0 Understand transportation resources.		
	3.0 Know transportation pricing.		
	4.0 Know the role of transportation in National economic development.		
	5.0 Understand the concept of regulation and deregulation.		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: INTRODUCTION TO TRANSPORT ECONOMICS</b>			<b>COURSE CODE: TPM 124</b>		<b>CONTACT HOURS: 2-0</b>	
<b>GOAL: This course is designed to enable the student understand the basic principles of transport economics.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
GENERAL OBJECTIVE 1.0: Know the basic concept of transport economics.						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1 Define basic economics. 2 Distinguish between macro and micro economics. 3 Define transport economics. 4 State the principles of market situation in transport economics. 5 Explain economic importance of all forms of transport	(i) Explain principles of basic economics . (ii) Explain typologies and scope. (iii) Explain the basic principles of transport economics. (iv) State the principles of market situation in transport economics. (v). Explain economic importance of all forms of transport	Books, Journals and other relevant materials.			
GENERAL OBJECTIVE 2.0: Understand transportation resources.						
2	2.1. Define Resources. 2.2. Outline transportation resources.	(i) Explain resources (ii) Explain different types of	Books, Journals and other relevant materials			

	2.3.Explain the importance of transportation resources.  2.4. State the influence of transportation on natural resources	resources. (iii) Explain the importance of transportation resources. (iv) Explain the influence of transportation on natural resources.				
GENERAL OBJECTIVE 3.0: Know transportation pricing.						
3	3.1. Describe the concepts of pricing. 3.2. Distinguish between transport cost and pricing. 3.3. Explain pricing of transport sector. 3.4. Explain the concept if eternal tripled. 3.5. Explain supply and demand characteristics of transport economics	(i) Explain pricing and its relationship with cost. (ii) Explain determination of pricing. (iii) Illustrate the concept of eternal triple.	Books, Journals and other relevant materials			
GENERAL OBJECTIVE 4.0: Know the role of transportation in National economic development.						
4	4.1 Explain transportation as an aspect of GNP (Gross National Product). 4.2. Describe the role of transport in local economic development. 4.3. Identify the influence of transportation on human resources. 4.4. Explain cost benefit analysis of transportation	(i) Explain the roles of transport in economic development.  (ii) Illustrate the principle of cost benefit. (iii) Give examples on cost, benefit analysis.	Books, Journals and other learning materials			

	projects. 4.5. Generate Seminar and supply for passenger transportation. 4.6 Generate demand and supply for freight transportation.					
GENERAL OBJECTIVE 5.0: Understand the concept of regulation and deregulation.						
5	5.1 Explain government involvement in transportation 5.2. Explain the concept of regulation and deregulation. 5.3 State the benefits of deregulation. 5.4 Identify government instrument in transportation.	(i)Explain the Principle of regulation and deregulation in the transport industry. (ii)Explain government activities on deregulation.	Books, Journals and other relevant materials			

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

<b>PROGRAMME:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND I –SECOND</b>		
<b>COURSE TITLE:</b>	<b>INTRA URBAN TRANSPORT (DESIGN STUDIO)</b>		
<b>DURATION:</b>	<b>4hrs</b>	<b>THEORY: 1hr</b>	<b>PRACTICAL: 3hrs</b>
<b>COURSE CODE:</b>	<b>TPM 125</b>		
<b>CREDIT UNIT:</b>	<b>4</b>		
<b>GOAL</b>	<b>This course is designed to equip the student with the skill of conducting field survey and design in transportation planning and management</b>		
<b>GENERAL OBJECTIVES:</b>	<b>At the end of the course, the student should be able to:</b>		
	<ol style="list-style-type: none"> <li>1. Understand trip generation rate in a selected study area</li> <li>2. Know how to determine hourly traffic at peak and off peak periods</li> <li>3. Know how to determine person trip per household for a defined population size</li> <li>4. Know how to determine average vehicle trip rates characteristics of each of generators in the selected study area</li> <li>5. Understand detail trip generation characteristics of the population of the study area</li> </ol>		



<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: INTRA-URBAN TRANSPORT (DESIGN STUDIO)</b>			<b>COURSE CODE: 125</b>		<b>CONTACT HOURS: 1-3</b>	
<b>GOAL: This course is designed to equip the student with the skill of conducting field survey and design in transportation planning and management</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
	<b>GENERAL OBJECTIVE 1.0: Understand trip generation rate in a selected study area</b>					
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1 - 2	1.1 Define trip generation and generator 1.2 Determine generation rate	i. Explain process for selecting study area ii. Identify and explain all potential trip generators	Books, journals and relevant publications.	i. Carry out trip generation activities ii. Present a report iii. Evaluate the report	1.1 Select a study area 1.2 Give students assignment on the selected case study area	Traffic count equipment, camera, etc
	<b>GENERAL OBJECTIVE 2.0: Know how to determine hourly traffic at peak and off peak periods</b>					
3– 5	2.1 Define peak and off-peak hours 2.2 Explain traffic survey techniques to determine peak and off peak hours in the selected case study area for each trip generators 2.3 Explain the use of traffic survey data in Transport Planning and Management	i. Explain the meaning of peak and off hour ii. Explain traffic survey techniques to determine peak and off peak hours in the selected case study area for each trip generators iii. Explain the use of traffic survey data in Transport Planning and Management	Relevant book, journals	i. Carry out a case study of an area for each traffic survey ii. Present report iii. Evaluate the report	1.1 Select case study area for each traffic survey 1.2 Guide students to conduct survey 1.3 Demonstrate to students how to analyse data collected from traffic survey 1.4 Give assignment on traffic survey	Traffic count equipment, vehicle and camera

GENERAL OBJECTIVE 3.0: Know how to determine person trip per household for a defined population size						
6 – 7	3.1 Define household and population in transport 3.2 Explain person trip per household for the following: a. 50,000 – 100,000 b. 100,000 – 250,000 c. 250,000 – 750,000 d. 750,000 – 2,000,000	i. Explain household and population in transport ii. Explain how to determine person trip per household for 3.2a – 3.2d	Relevant books, journal traffic count equipment vehicles camera interview guide	3.1 Determine person trip per household for: i. 50,000 – 100,000 ii. 100,000 – 250,000 iii. 250,000 – 750,000 iv. 750,000 – 1,000,000	i. Give assignment on how to determine person trip per household ii. Guide student on above iii. Evaluate assignment	Traffic count equipment, vehicles camera and interview guide
GENERAL OBJECTIVE 4.0: Know how to determine average vehicle trip rates characteristics of each generators in the selected study area						
8 – 9	4.1 Explain Average vehicle trip rates characteristics of each of generators in the selected study area: 4.2 Explain average vehicle characteristics of each trip generator from field survey.	i. Explain vehicles trip rates and likely characteristics of a given population. ii. Explain the uses of trip generation characteristics	Relevant books, journals	4.1 Demonstrate average vehicle rate characteristics determination	i. Give assignment to demonstrate average vehicle rate characteristics determination ii. Guide student on above iii. Evaluate assignment	Traffic count equipment, vehicles camera and interview guide
GENERAL OBJECTIVE 5.0: Understand detail trip generation characteristics of the population of the study area						
10 – 11	5.1 Explain detail trip generation characteristics of the study area 5.2 Explain trip generation data in Transport Planning and Management	i. Explain students how to design instrument used in data collection for trip generation characteristics ii. Explain the uses of data on trip generation	Relevant books, journals	5.1 Carryout trip generation characteristics of the population in the selected study area 5.2 Demonstrate the use of trip generation data 5.3 Guide student on 5.1 and 5.2 above	ii. Give assignment on data collection on trip generation in the selected study area iii. Evaluate assignment	Traffic count equipment, vehicle

		characteristics in transportation planning and management				
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Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND I-SECOND</b>		
<b>COURSE TITLE:</b>	<b>URBAN TRANSPORTATION PLANNING</b>		
<b>DURATION:</b>	<b>3hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 1hr</b>
<b>CREDIT UNIT:</b>	<b>3</b>		
<b>COURSE CODE:</b>	<b>TPM 126</b>		
<b>GOAL:</b>	<b>This course is designed to enable the student understand the basic principles and techniques of urban transportation planning.</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of this course, the student should be able to:</b>		
	1.0 Know what is urban transportation planning		
	2.0 Understand the concept of transportation system		
	3.0 Know the role of private and public sector in transportation planning		
	4.0 Know the difference between mass and para-transit transportation system		
	5.0 Know traffic forecasting and coordination		
	6.0 Know how to identify various elements of a town, city and metropolitan areas.		
	7.0 Know how to carry out reconnaissance		
	8.0 Know how to delimit a study area		
	9.0 Know how to determine the carrying capacity of a transport corridor.		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE:URBAN TRANSPORTATION PLANNING</b>			<b>COURSE CODE:TPM 126</b>		<b>CONTACT HOURS: 2-1</b>	
<b>GOAL: 1.0 This course is designed to enable the student understand the basic principles and techniques of urban transportation planning</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
GENERAL OBJECTIVE 1.0: Know what is urban transportation planning.						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1Define urban transportation planning 1.2Identify bodies involved in transportation planning 1.3Explain the demand for urban transport 1.4Explain transport needs of the urban population	i. Define urban transportation planning ii. Identify bodies involved in transportation planning iii. Explain the demand for urban transport iv. Explain transport needs of the urban population.	Books, journals projectors etc. Audio visual aids			
GENERAL OBJECTIVE 2.0: Understand the concept of transportation system						
2	2.1 Explain the concept of transportation system 2.2 Explain the component of urban transportation system 2.3 Explain the modes of urban transportation system 2.4 Explain the operation of urban transportation system	i. Explain the concept of transportation system ii. Explain the component of urban transportation system iii. Explain the modes of urban	Books, Journals, Audio Visual			

		transportation system iv. Explain the operation of urban transportation system				
<b>GENERAL OBJECTIVE 3.0: Know the role of private and public sector in transportation planning</b>						
3	1 Explain the role of private and public sector on urban transportation.	i. Explain the role of private and public sector on urban transportation.	.			
<b>GENERAL OBJECTIVE 4.0: Know the difference between mass and para-transit transportation system</b>						
4	4.1 Explain mass and para-transit operation system 4.2 Distinguish between mass and para-transit 4.3 Describe the components of each(mass and para-transit) 4.4 Explain the role of each in urban transport development.	i. Explain mass and para-transit operation system ii. Distinguish between mass and para-transit iii. Explain the components of each(mass and para-transit) iv Explain the role of each in urban transport development.	Books, Journals White Board and Audio visual aids.			
<b>GENERAL OBJECTIVE 5.0: Know traffic forecasting and coordination</b>						
5	5.1 Explain traffic forecasting and coordination 5.2 Explain traffic demand models 5.3 Explain traffic demand	i. Explain traffic forecasting and coordination ii. Explain traffic demand models iii. Explain traffic	Books Journals			

	analysis	demand analysis				
GENERAL OBJECTIVE 6.0: Know how identify various elements of a town, city and metropolitan areas						
6	6.1 Explain the elements of a town, city and metropolitan area. 6.2 Explain the hierarchy of roads in town, city and metropolitan area.	i. Explain the elements of a town, city and metropolitan area. ii. Explain the hierarchy of roads in a town, city and metropolitan area.	Books Journals			
GENERAL OBJECTIVE 7.0: Know how to carryout reconnaissance						
7	7.1 Explain the characteristics of the planning area. 7.2 Interpret the contents of a topographic map and land use map. 7.3 Demonstrate how to prepare questionnaire for a transportation study. 7.4 Explain procedure of conducting reconnaissance.	i. Explain the characteristics of the planning area. ii. Interpreter contents of topography map, soil map and land use map. iii. Demonstrate how to prepare question for a transportation study. iv. Explain the procedure of conducting reconnaissance for an area	Books Journal Maps	i. Conduct questionnaire survey in a selected area. ii. Prepare a questionnaire. iii. Administer a question for the selected area. iv. Write and present report.	i. Select a study area. ii. Guide student in preparation and administer questionnaire. iii. Evaluate questionnaire.	Vehicle, sample questionnaire
GENERAL OBJECTIVE 8.0: Know how to delimit a study area.						
8	8.1 Define how to delimit a study. 8.2 Explain the procedure to conducting travel	i. Explain how to delimit a study area ii. Explain the procedure for	Books, Journals and other relevant documents			

	<p>time survey on diners.</p> <p>8.3 Explain the procedure data collection analysis and interpretation.</p> <p>8.4 Explain how to write report from the data collected</p>	<p>conducting travel time survey on divers.</p> <p>iii. Explain the procedure for data collection analysis and interpretation</p> <p>iv. Explain how to unite report from the data collected.</p>				
<b>GENERAL OBJECTIVE 9.0: Know how to determine the carrying capacity of a transport corridor.</b>						
9	<p>9.1 Explain capacity of an intersection in the study area.</p> <p>9.2 Explain carrying capacity of a selected transport corridor.</p>	<p>i. Explain capacity of an intersection in study area.</p> <p>. Explain carrying capacity of the transport corridor.</p>	<p>Book, Journals and other relevant materials</p>			

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.



<b>PROGRAMME:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND II - FIRST</b>		
<b>COURSE TITLE:</b>	<b>MASS TRANSIT OPERATION AND MANAGEMENT</b>		
<b>DURATION:</b>	<b>3hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 1hr</b>
<b>COURSE CODE:</b>	<b>TPM 211</b>		
<b>CREDIT UNIT:</b>	<b>3</b>		
<b>GOAL:</b>	<b>The course is designed to enable the student know the basic principles of mass transit operation and management</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of the course, the student should be able to:</b>		
	1.0 Understand the concept of Mass Transit		
	2.0 Know the modes of Mass Transit		
	3.0 Understand the Administration of Mass Transit		
	4.0 Understand Transport Business Operation in Nigeria		
	5.0 Understand transport Operation Management, Marketing and Commercial Policy		
	6.0 Know the Challenges of Mass Transit and its solution in Nigeria		
	7.0 Know the Challenges of Mass Transit		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: MASS TRANSIT OPERATION AND MANAGEMENT</b>			<b>COURSE CODE: TPM 211</b>		<b>CONTACT HOURS: 2-1</b>	
<b>GOAL: The course is designed to enable the student know the basic principles of mass transit operation and management</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
	GENERAL OBJECTIVE 1.0: Understand the concept of mass transit					
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1 Define Mass Transit 1.2 Trace the development of Mass Transit 1.3 Explain the need for Mass Transit 1.4 Identify types of Mass Transit	i. Explain the meaning of Mass Transit ii. Trace the development of Mass Transit iii. Explain the need for Mass Transit iv. Identify the types of Mass Transit	Textbooks, Journals and other relevant materials			
	GENERAL OBJECTIVE 2.0: Know the modes of mass transit					
2	2.1 Explain ROAD Mass Transit 2.2 Explain Rail Mass Transit 2.3 Explain Inland Waterway Mass Transit	i. Explain Road Mass transit ii. Explain Rail Mass Transit iii. Explain Inland Waterway Mass Transit	Textbooks, Journals and other relevant materials	i. Undertake field trips to road, rail and inland waterway ii. Observe mass transit business operations iii. Write reports	i. Carryout field trips to road, rail, and inland waterways mass transit ii. Guide students in the trips iii. Present report iv. Evaluate Report	- Vehicle - Canoe - Video
	GENERAL OBJECTIVE 3.0: Understand the administration of mass transit					
3	1.1 Explain the role of government in Mass	i. Explain the role of	Textbooks, Journals and Other			

	Transit 1.2 Explain the role of Private Sector in Mass Transit 1.3 Explain the operational procedure in Mass Transit	government in Mass Transit ii. Explain the role of Private Sector in Mass Transit iii. Explain the operational procedure in Mass Transit	Relevant Materials			
GENERAL OBJECTIVE 4.0: Understand transport business operation in nigeria						
4	4.1 Define Transport Business Policy 4.2 Explain the Objectives of Transport Business Policy	i. Explain Transport Business Policy ii. Give reasons for the Policy iii. Describe the Scope of the Policy	Textbooks, Journals and other relevant materials			
GENERAL OBJECTIVE 5.0: Understand transport operation management, marketing and commercial policy						
5-6	5.1 Define Operation Management 5.2 Define Marketing and Commercial Policy 5.3 Explain Operation Management 5.4 Explain Marketing and Commercial Policy	i. Define Operation Management ii. Define Marketing and Commercial Policy iii. Explain Marketing and Commercial Policy	Textbooks, Journals and other relevant materials			
GENERAL OBJECTIVE 6.0: Know the challenges of mass transit and its solution in Nigeria						
7-8	6.1 Identify the challenges facing road mass transit 6.2 Identify the challenges facing Rail	i. Identify the challenges facing Road mass transit ii. Identify the challenges facing	Textbooks, Journals and other relevant materials			

	<p>Mass Transit</p> <p>6.3 Identify the challenges facing Inland Waterway Mass Transit</p> <p>6.4 Explain the Strategies for addressing the challenges in 6.1 to 6.3 to above</p>	<p>Rail Mass Transit</p> <p>iii. Identify challenges facing Inland Waterway Mass Transit</p> <p>iv. Explain the strategies for addressing the challenges in (i to iii) above</p>				
GENERAL OBJECTIVE 7.0: Know the challenges of mass transit in Nigeria						
9-10	<p>7.1 Suggest and explain strategies for addressing Road Mass Transit Challenges</p> <p>7.2 Suggest and explain strategies for addressing Rail Mass Transit Challenges</p> <p>7.3 Suggest and explain strategies for addressing Inland Waterway Mass Transit Challenges</p>	<p>i. Suggest and explain the strategies for addressing Road Mass Transit Challenges</p> <p>ii. Suggest and explain strategies for addressing Rail Mass Transit Challenges</p> <p>iii. Suggest and explain strategies for addressing Inland Waterway Mass Transit Challenges</p>				

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANGEMENT</b>		
<b>SEMESTER:</b>	<b>ND II- SECOND</b>		
<b>COURSE TITLE:</b>	<b>INDTRODUCTION TO AIR AND MARITIME TRANSPORT</b>		
<b>DURATION:</b>	<b>2hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 0hr</b>
<b>CREDIT UNIT:</b>	<b>2</b>		
<b>COURSE CODE:</b>	<b>TPM 212</b>		
<b>GOAL:</b>	<b>The course is designed to expose the student to the basic concepts of air and maritime transport system and operations.</b>		
<b>GENERAL OBJECTIVES:</b>	<b>At the end of the course, the student should be able to:</b>		
	<ul style="list-style-type: none"> <li>1.0 Understand the basic concept of air transport.</li> <li>2.0 Understand airspace sovereignty.</li> <li>3.0 Understand the concept of private rights in the use of airspace.</li> <li>4.0 Understand airport facilities and infrastructure.</li> <li>5.0 Understand the basic concept of aircraft nationality.</li> <li>6.0 Understand the challenges of air transport operation and Management.</li> <li>7.0 Know the basic principles of maritime transport.</li> <li>8.0 Know major shipping markets.</li> <li>9.0 Know institution and legal frame work in Maritime Transport.</li> <li>10.0 Understand Freight Planning and Management in Maritime Transport.</li> <li>11.0 Know the roles of shipping in development and developing nations.</li> </ul>		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: INTRODUCTION TO AIR AND MARITIME TRANSPORT</b>			<b>COURSE CODE:TPM 212</b>		<b>CONTACT HOURS: 2-0</b>	
<b>GOAL: The course is designed to expose the student to the basic concepts of air transport system and operations.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
1.0 GENERAL OBJECTIVE 1.0: Understand the basic concept of air transport.						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1 Explain air transport. 1.2 Explain the relevance of air transport as a mode of transport 1.3. Explain the limitation of air transport	i. Explain air transport. ii. Explain the relevance of air transport as a mode of transport iii. Explain the limitation of air transport.	Relevant books, Journals, and other learning materials			
GENERAL OBJECTIVE 2.0: Understand airspace sovereignty						
2	2.1 Explain the basic Principles of international law on airspace. 2.2 Explain the power of airspace sovereignty to regulate airspace, within the country's territory. 2.3. Explain types of commercial air transport and regulations.	i. Explain International and local laws that govern the use of air-space (ICAO,NCAA) ii. Explain types of sovereignty. iii. Explain types of commercial air transport and regulations.	Relevant books, Journals, and other learning materials.			
GENERAL OBJECTIVE 3.0: Understand the concept of private rights in the use of airspace.						
3	3.1. Explain the principle of private rights.	i. Explain private rights	Relevant books, Journals and other			

	3.2. Explain local and International laws that regulates private rights	ii. Explain laws that regulate private rights	learning materials			
GENERAL OBJECTIVE 4.0: Understand airport facilities and infrastructure.						
4-5	4.1 Enumerate the components of an airport. 4.2. Explain the ownership of airport such as private, municipal and national. 4.3. State town planning laws that regulate the sitting of airport. 4.4. Cite laws that regulate take-off and landing of aircraft.	i. Describe the components of an airport. ii. Explain types of airport ownership. iii. Explain town planning laws requirements for sitting and development of airport. iv. Explain regulations for take-off and landing of aircraft.	Relevant books, Journals and other materials.			
GENERAL OBJECTIVE 5.0: Understand the basic concept of air-craft nationality.						
6	5.1 Enumerate aircraft types. 5.2 Explain aircraft nationality. 5.3 Outline the procedure for aircraft registration.	i. Explain the meaning of aircraft nationality. ii. Explain procedure for aircraft registration and types of registration. Explain the procedure for aircraft registration.	Relevant books, Journal and other materials.			
GENERAL OBJECTIVE 6.0: Understand the challenges of air transport operations and management.						
7	6.1 Explain acts of occurrences on board	i. Explain acts of occurrences on	Relevant books,			



	<p>aircraft.</p> <ul style="list-style-type: none"> <li>Examine criminal jurisdiction of aircraft within and outside its territory.</li> <li>Cite civil jurisdiction of aircraft within and outside its territory.</li> </ul> <p>6.2 Enumerate Aviation National Regulators and their functions.</p> <p>6.3 Examine the provision of the law on Aviation.</p>	<p>board of aircraft.</p> <p>ii. Explain criminal civil jurisdiction within and outside aircraft territory.</p> <p>iii. Cite civil jurisdiction of aircraft within and outside its territory. Explain Aviation National Regulators and their functions.</p> <p>iv. Explain Aviation safety regulations.</p>	Journals, and other learning materials			
GENERAL OBJECTIVE 7.0: Know the basic principles of maritime transport.						
8	<p>7.1 Define Maritime Transport.</p> <p>7.2 Explain the basic principles of maritime transport.</p> <p>7.3 Explain passenger taxi service.</p> <p>7.4 Explain mass passenger movement.</p>	<p>i. Define maritime transport.</p> <p>ii. Explain principles in transport.</p>	Textbooks, Journals and other relevant materials			
GENERAL OBJECTIVE 8.0: Know major shipping markets.						
9	<p>8.1 Explain shipping markets.</p> <p>8.2 Highlight the role of shipping marketing transportation industry.</p>	<p>i Explain the shipping markets in maritime industry,</p> <p>ii. Explain roles of shipping market in</p>	Textbooks, Journals and other relevant materials			

		maritime industry.				
GENERAL OBJECTIVE 9.0: Know institutional and legal frame work in Maritime Transport.						
10	9.1 Identify agencies that regulate maritime transport industry.  9.2 Explain responsibilities existing industry laws in maritime.	i. identify maritime agencies of IMO and explain their responsibilities.(IMO, NIMASA,MPA) ii. Explain maritime existing laws in maritime industry (sabotage law).	Relevant books, Journal and other materials			
GENERAL OBJECTIVE 10.0: Understand Freight Planning and Management in Maritime Transport.						
11	10.1 Define Freight. 10.2 Explain freight planning. 10.3 Explain management in maritime transport. 10.4 Explain the differences between freight planning and management in maritime transport. 10.5 Describe various haulage vehicles	i. Define freight. ii. Explain freight planning. iii. Explain management in maritime transport. v. Differentiate between freight planning and management in maritime transport.	Relevant books, Journal and other materials			
GENERAL OBJECTIVE 11.0: Know the roles of shipping in developed and developing nations.						
12	11.1 Define shipping in developed nations. 11.2 Explain the roles of shipping in developing nations.	i. Explain the roles of shipping in developed and developing nations.	Textbooks, Journals and other relevant materials			

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

**PROGRAMME:** NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT

**SEMESTER:** ND I I - FIRST

**COURSE TITLE:** POPULATION AND URBANISATION

**DURATION:** 2hrs            **THEORY:** 2hrs            **PRACTICAL:** 0hr

**COURSE CODE:** TPM 213

**CREDIT UNIT:** 2

**GOAL:** The course is designed to enable the student know the relationship between population growth, urbanization and transportation planning and management

**GENERAL OBJECTIVES:** On completion of the course, the student should be able to:

- 1.0 Understand population and urbanization
- 2.0 Understand population data sources and collection methods
- 3.0 Understand population projection methods

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: POPULATION AND URBANISATION</b>		<b>COURSE CODE: TPM 213</b>		<b>CONTACT HOURS: 2-0</b>		
<b>GOAL: The course is designed to enable the student know the relationship between population growth, urbanization and transport planning and management</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
GENERAL OBJECTIVE 1.0: Understand population and urbanization						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1 - 2	1.1 Define Population 1.2 Define Urbanization 1.3 Explain the characteristics of population and urbanization	i) Define Population ii) Define Urbanization iii) Explain the characteristics of population and urbanization	Books Journals and relevant materials			
GENERAL OBJECTIVE 2.0: Understand population data and sources and collection methods						
	2.1 Describe population data 2.2 Explain sources of population data 2.3 Explain the relevance of population data to transport planning and management 2.4 Explain methods of data collection and collation 2.5 Explain elements of population growth 2.6 Explain the following	i. Explain sources of population data, methods of population data collection, population data storage and retrieval and collation ii. Explain the importance of population data in transport planning and	Books, Journals Statistical Tables, Calculators			

3- 6	Elements and their implications on transport planning and management: Fertility, mortality, birth and death rate	<p>management</p> <p>iii. Explain population growth and its pattern types of growth</p> <p>iv. Explain the following element and their implication on transport planning and management: fertility, mortality, birth and death rate</p>				
GENERAL OBJECTIVE 3.0: Understand population projection methods						
7 - 10	<p>3.1 Explain population projection</p> <p>3.2 Differentiate between population projection and forecasting</p> <p>3.3 State the importance of population projection and forecasting in transportation planning and management</p>	<p>i) Explain population projection and forecasting</p> <p>ii) Differentiate between population projection and forecasting</p> <p>iii) State the importance of population projection and forecasting in transport planning and management</p>	Books, Journals, Calculator Statistical Table			

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

**PROGRAMME TITLE: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT**

**SEMESTER: ND II -FIRST**

**COURSE TITLE: RURAL TRANSPORTATION PLANNING**

**DURATION: 4hrs THEORY: 2hrs PRACTICAL: 2hrs**

**CREDIT UNIT: 4**

**COURSE CODE: TPM 214**

**GOAL: This course is designed to enable the student acquire techniques in Rural Transportation Planning.**

**GENERAL OBJECTIVES: On completion of this course, the student should be able to:**

- 1.0 Know rural transportation.
- 2.0 Understand the rural transportation needs.
- 3.0 Know the issues in rural transportation.
- 4.0 Know rural transportation planning
- 5.0 Understand rural transportation characteristics.
- 6.0 Know rural transportation facilities.

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: RURAL TRANSPORTATION PLANNING</b>		<b>COURSE CODE: TPM 214</b>			<b>CONTACT HOURS: 2-2</b>	
<b>GOAL: This course is designed to enable the student to acquire techniques in Rural Transportation Planning.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
<b>GENERAL OBJECTIVE 1.0: Know Rural Transportation.</b>						
<b>Week</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objective</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
1	1.1 Define rural transportation. 1.2 Analyze the scope of rural transportation. 1.3 Describe rural transportation development over the years.	i. Explain rural transportation. ii. Explain the evolution of rural transportation.	Book, Journals			
<b>GENERAL OBJECTIVE 2.0: Understand Rural Transportation needs</b>						
2	2.1 Identify rural transportation needs. 2.2 Explain the reasons for these needs.	i. State rural transportation needs. ii. Explain rural transportation needs.	Book, Journals			
<b>GENERAL OBJECTIVE 3.0: Know the issues in rural transportation</b>						
3	3.1 Identify rural transportation modes 3.2 Explain the development process of the various modes of transport. 3.3 Explain rural transportation demand and supply. 3.4 Describe rural	i. Explain rural transportation modes. ii. Explain rural transportation demand and supply. iii. Explain rural transportation pattern.	Book, Journals			

	transportation pattern.					
GENERAL OBJECTIVE 4.0: Know rural transportation planning.						
4	4.1 Define rural transportation planning. 4.2 Explain rural transportation problems. 4.3 Explain rural transportation operations and management.	i. Explain rural transportation planning. ii. Explain rural transportation problems. iii. Explain operations and management or rural transportation	Book, Journals	4.1 Select study area. 4.2 Carry out a study of transportation problems in the area selected study. 4.3 Write and present report	Demonstrate how to prepare a rural transportation plan. Select study area- Guide student to conduct study area  Write present report Evaluate	- Vehicle - Maps - Camera -Video recorder
GENERAL OBJECTIVE 5.0: Understand rural transportation characteristics						
5	5.1 Define poverty. 5.2 Explain the state of development of rural transportation. 5.3 Describe rural accessibility. 5.4 Describe the mobility aspect of rural transportation.	i. Explain poverty. ii. Explain the state of rural transportation development. iii. Explain rural transportation accessibility and mobility.	Book, Journals			
GENERAL OBJECTIVE 6.0: Know rural transportation facilities.						
6	6.1 Define transportation facilities. 6.2 Outline the types of rural transportation facilities.	i. Explain rural transportation facilities. ii. List types of rural transportation facilities.	Book, Journals	. Design one of the facilities. Demonstrate how to design some rural transport facilities.	- Select study area - Guide the student - Evaluate assignment. -Write and present report.	- Vehicle - Camera - Video

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.



<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND II- FIRST</b>		
<b>COURSE TITLE:</b>	<b>ROAD FREIGHT AND PASSENGER TRANSPORT MANAGEMENT</b>		
<b>DURATION:</b>	<b>3hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 1hr</b>
<b>CREDIT UNIT:</b>	<b>3</b>		
<b>COURSE CODE:</b>	<b>TPM 215</b>		
<b>GOAL:</b>	<b>This course is designed to enable the student have basic knowledge on freight and passenger involvement.</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of this course, the student should be able to:</b>		
	1.0 Know the evolution of freight and passenger transport in Nigeria		
	2.0 Understand cargo/freight characteristics and modal choice		
	3.0 Understand containerization in freight transportation		
	4.0 Understand flow pattern of goods and types of haulage vehicles		
	5.0 Understand vehicle replacement planning.		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: ROAD FREIGHT AND PASSENGER TRANSPORT MANAGEMENT</b>			<b>COURSE CODE:TPM 215</b>		<b>CONTACT HOURS: 2-1</b>	
<b>GOAL: This course is designed to enable the student have basic knowledge on freight and passenger transport in Nigeria.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
GENERAL OBJECTIVE 1.0: Know the evolution of freight and passenger transport in Nigeria.						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1 Explain the evolution of freight movement. 1.2 Explain the evolution of passenger movement 1.3 Explain taxi service. 1.4 Explain mass transit service.	i. Trace the evolution of freight movement in Nigeria. ii. Explain the evolution of passenger movements in Nigeria. iii. Explain passenger taxi service vi. Explain mass passenger movement	Books Journals and other relevant materials			
GENERAL OBJECTIVE 2.0: Understand cargo/freight characteristics and modal choice.						
2-4	2.1 Define weight as a characteristic of cargo. 2.2 Explain sizes and shapes as characteristic of freights 2.3 Explain fragile nature of freights. 2.4 Explain dangerous freights e.g. inflammables, toxic	Explain:- i. Heavy Weight goods low weight goods – give examples ii. Define freight configuration – Big Size, Low weight est. iii. Define fragility	Textbooks Journals and other relevant materials			

	<p>substances.</p> <p>2.5 Explain value of freight as a factor of modal choice.</p> <p>2.6 Explain international laws governing transportation of dangerous goods.</p>	<p>of freight – give examples.</p> <p>iv. Define dangerous freight – give examples.</p> <p>v. Explain packaging of dangerous – explain value of weight.</p> <p>- high value low volume</p> <p>- low volume high value – give examples.</p>				
GENERAL OBJECTIVE 3.0: Understand containerization in freight transportation.						
5	<p>3.1 Define containerization</p> <p>3.2 Describe types of containers.</p> <p>3.3 Explain the merits and demerits of containerization.</p>	<p>i. Explain containerization as a method of packaging.</p> <p>ii. Explain stacking of containers in the sea port.</p> <p>iii. Designs different types of containers</p> <p>iv. Explain the following merits of containerization e.g.</p> <p>- Speed and economy in handling</p> <p>- safety of goods</p> <p>- reduced packing etc</p> <p>- Explain the</p>	<p>Textbook</p> <p>Journals and other relevant materials</p>	<p>Organize excursion to NPA</p>	<p>i. Explain to student container handling and staking.</p> <p>ii. Write and present report.</p> <p>iii. Evaluate</p> <p>-</p>	<p>- Vehicle Camera</p>

		<p>following de-merit of containerization.</p> <ul style="list-style-type: none"> <li>- capital requirement</li> <li>- large number of containers</li> </ul>				
GENERAL OBJECTIVE 4.0: Understand flow pattern of goods and types of haulage vehicles.						
6	<p>4.1 Define location of factories.</p> <p>4.2 Explain location of warehouse</p> <p>4.3 Explain packaging and unitization</p> <p>4.4 Explain transport arrangement</p> <p>4.5 Describe various haulage vehicles</p>	<p>i.Explain location of industries where goods are produced for haulage.</p> <p>ii. Explain the need for warehouse.</p> <p>iii. Describe different ways of packaging.</p> <p>iv. Explain how to choose haulage vehicles based on nature of goods.</p> <p>v. Describe courses vans, open truck, plat rum vehicle, refrigerator vehicle etc.</p>	<p>Textbook</p> <p>Journals and other relevant materials</p>			
GENERAL OBJECTIVE 5.0: Understand vehicle replacement planning.						
7	<p>5.1 Define vehicle replacement planning.</p> <p>5.2 Explain methods of carrying out vehicle replacement planning.</p>	<p>i. Explain the concept of vehicles replacement planning.</p> <p>ii. Explain the need for vehicle replacement.</p>	<p>Textbook</p> <p>Journals and other relevant materials</p>			

		iii. Describe depreciation as a method of vehicle replacement planning iv. Explain method of depreciation: -Reducing balance method - Straight line method.				
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Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

<b>PROGRAMME:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND II – FIRST</b>		
<b>COURSE TITLE:</b>	<b>TRAFFIC SURVEY METHODS</b>		
<b>DURATION:</b>	<b>3hrs</b>	<b>THEORY: 1hr</b>	<b>PRACTICAL: 2hrs</b>
<b>COURSE CODE:</b>	<b>TPM 216</b>		
<b>CREDIT UNIT:</b>	<b>4</b>		
<b>GOAL:</b>	<b>This course is designed to equip the student with basic knowledge of principles and techniques of traffic survey methods</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of the course, the student should be able to:</b>		
	1.0 Know different types of traffic surveys		
	2.0 Know how to conduct traffic survey		
	3.0 Know how to analyse traffic data		
	4.0 Know how to relate traffic volume to road capacity, parking etc.		
	5.0 Know how to interpret data from questionnaire		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: TRAFFIC SURVEY METHODS</b>			<b>COURSE CODE: TPM 216</b>		<b>CONTACT HOURS: 1-2</b>	
<b>GOAL: This course is designed to equip the student with basic knowledge of principles and techniques of traffic survey methods</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
GENERAL OBJECTIVE 1.0: Know different types of traffic surveys						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1-2	1.1 Define traffic surveys 1.2 Explain different types of traffic survey 1.3 Explain methods 1.4 Explain traffic flow in an area	i. Define traffic travel survey ii. Explain different types of traffic travel survey iii. Describe different methods of traffic survey e.g. manual count, automative count iv. Explain traffic flow in an area	Books, Journals Maps Traffic counter			
GENERAL OBJECTIVE 2.0: Know how to conduct traffic survey						
3-5	2.1 Describe how to conduct traffic survey 2.2 Explain the steps involved in the conduct of traffic survey 2.3 Explain the modality	i. Explain how to conduct traffic survey ii. Explain the steps involved in the conduct of traffic survey	Books, Journals Maps Traffic counter	2.1 Carry out traffic survey 2.2 Demonstrate how to use traffic counters	i. Select an area for survey ii. Guide students to carry out traffic survey iii. Write and present report	-Traffic Counter -Security Personnel - Hat - Rain Coat

	<p>of each of the steps</p> <p>2.4 Explain how to conduct household and modal passenger surveys</p> <p>2.5 Explain how to conduct road side survey</p>	<p>iii. Explain the modality of each of the steps</p> <p>iv. Define modal split</p> <p>v. Explain how to conduct household modal passenger and road side surveys</p>		<p>2.4 Carry out household modal survey</p> <p>2.5 Guide student to carry out the survey</p>	<p>iv. Evaluate the assignment</p> <p>i. Select a neighbourhood area for the survey</p> <p>ii. Write and present report</p> <p>iii. Evaluate the report</p>	<p>- Manual counter (20 No)</p> <p>- Auto counter (20 No.)</p> <p>- Video</p> <p>- OPS</p>
GENERAL OBJECTIVE 3.0: Know how to analyse traffic data						
6	<p>3.1 Explain traffic data</p> <p>3.2 Explain how to analyse traffic data</p> <p>3.3 Explain the traffic survey in relation to road capacity</p>	<p>i. Describe traffic data</p> <p>ii. Demonstrate how to collate and analyse data</p> <p>iii. Explain traffic survey for road design capacity</p>	<p>Books</p> <p>Journals</p> <p>Maps</p>	<p>3.1 Analyse traffic survey data</p>	<p>i. Give students raw traffic data</p> <p>ii. Guide student how to analyse data</p> <p>iii. Give student assignment</p> <p>iv. Evaluate the assignment</p>	<p>- Computer</p> <p>- Scientific Calculator</p> <p>- Relevant software</p> <p>- Printer</p>
GENERAL OBJECTIVE 4.0: Know how to relate traffic volume to road capacity, parking						
7-9	<p>4.1 Define Road Capacity</p> <p>4.2 Explain road carrying Capacity</p> <p>4.3 Explain traffic carrying capacity of road</p> <p>4.4 Explain inter-section turning movements</p> <p>4.5 Explain types of parking</p> <p>4.6 Explain parking</p>	<p>i. Define road capacity</p> <p>ii. Explain distribution by vehicle types</p> <p>iii. Explain road carrying capacity</p> <p>iv. Explain intersection turning</p>	<p>Books</p> <p>Journals etc</p>	<p>4.1 Carry out traffic survey</p>	<p>i. Select study area</p> <p>ii. Guide student in traffic survey</p> <p>iii. Write and present report</p> <p>iv. Evaluate the report</p>	<p>- Volumes</p> <p>- counter</p> <p>- Map</p>



	demand and supply 4.7 Explain parking management	movement v. Explain types of parking and parking factions vi. Explain parking demand and supply vii. Explain parking management				
GENERAL OBJECTIVE 5.0: Know how to interpret data from questionnaire						
10-12	5.1 Explain data checking and data coding 5.2 Explain data inputs 5.3 Explain data aggregation for road side nterview 5.4 Identify types of vehicles to count e.g. size, weight, quantity 5.5 Identify study area, traffic flow and survey duration	i. Explain data checking and data coding ii. Explain data inputs iii. Demonstrate how to inputs data into computer iv. Identify types of vehicles to count by size, weight v. Identify survey area	Book Journal	5.1Perform data checking data coding data inputting	i. Provide raw data to student ii. Guide student to perform data checking, data coding and data input to computer iii. Write and present report iv. Evaluate the report	- Computer - Scientific Calculator - Relevant softwares packages

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND II -FIRST</b>		
<b>COURSE TITLE:</b>	<b>LAND TRANSPORT FACILITIES DESIGN STUDIO III</b>		
<b>DURATION:</b>	<b>4hrs</b>	<b>THEORY: 1hr</b>	<b>PRACTICAL:3hrs</b>
<b>CREDIT UNIT:</b>	<b>4</b>		
<b>COURSE CODE:</b>	<b>TPM 217</b>		
<b>GOAL:</b>	<b>The course is designed to expose the student to the basic knowledge of land transport facility design as it applies to transportation planning.</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of this course, the student should be able to:</b>		
	1.0 Understand the basic concept of land transport facility design.		
	2.0 Know how to design a road way.		
	3.0 Know how to design a rail way track and terminal.		
	4.0 Know how to design road parking and terminal design.		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: Land Transport Facilities Design Studio III</b>			<b>COURSE CODE: TPM 217</b>		<b>CONTACT HOURS: 1-3</b>	
<b>GOAL: The course is designed to expose the student to the basic knowledge of land transport facility design as it applies to transportation planning.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
GENERAL OBJECTIVE 1.0: Understand the basic concept of transport facilities design.						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1-2	1.1 Explain land transport facility design. 1.2 Explain design process of land facilities. 1.3 Explain transport engineering design process.	i. Explain design process of land transport facilities. ii. Explain design process of land transport facilities. iii. Give assignment	i. Textbooks, Journals, design criteria or books on transportation planning			
GENERAL OBJECTIVE 2.0: Know how to design a road way.						
3-8 6-7	2.1 Explain the relationship between vehicular and facilities characteristics. 2.2 Explain design standard and element of roadway. 2.3 Explain design speed, sight distance and design document of roadway. 2.4 Explain geometric design, vertical alignment, super elevation, intersection, interchange and co-ordination of horizontal and vertical alignment.	i. Explain the relationship between vehicular and facilities characteristics. ii. Explain the various design elements of roadway.	Textbooks, Journal, Resign Criteria or books on transportation planning and traffic engineering	2.1 Conduct field trips. 2.2 Write and present report.	i. Give an assignment on roadway design. ii. Guide on the assignment on roadway design. iii. Evaluate the assignment on roadway design i. Carry out field trips. ii. Guide students in field trips.	Design standard criteria or books on transportation planning and traffic engineering. Training Paper Pen sets computers and graphic softwares.
GENERAL OBJECTIVE 3.0: Know how to design a railway track and terminal.						
8-9	3.1 Explain the overall track structure and major	i. Explain the overall track	Textbooks, Journals Design standard	1. Conduct field trip.	i. Give an assignment on	Design standard criteria or books on

	<p>components.</p> <p>3.2 Describe the structural design of track.</p> <p>3.3 Explain track maintenance</p> <p>3.4 Demonstrate the design of rail terminals</p>	<p>structure and major components.</p> <p>ii. Explain the structural design of track and maintenance</p> <p>iii. Demonstrate the design of rail terminals.</p>	<p>criteria or books on transport planning or traffic engineering</p>	<p>2. Design a simple rail track and terminal</p>	<p>railway track design terminal.</p> <p>ii. Guide an assignment on railway track design and terminal.</p> <p>iii. Evaluate the assignment on railway track design and terminal.</p>	<p>transport planning.</p> <p>Tracing Paper</p> <p>Pen sets</p> <p>Computers and graphic softwares</p> <p>AO plotter</p> <p>A3 printers</p>
GENERAL OBJECTIVE 4.0: Understand road parking and terminal design.						
4	<p>4.1 Explain the various types of parking.</p> <p>4.2 Explain the design standard for parking.</p> <p>4.3 Explain terminal facilities.</p> <p>4.4 Demonstrate planning and design of terminal facilities.</p> <p>4.5 Explain the techniques of demand analysis.</p>	<p>i. Explain the types of parking and their design standard.</p> <p>ii. Demonstrate design planning and facilities.</p> <p>iii. Explain the techniques of demand analysis.</p>	<p>Books, Journals, Resign standard criteria or books on transportation planning.</p>	<p>Conduct visit to terminal park</p>	<p><i>i.</i> Give an assignment on terminal facilities design.</p> <p><i>ii.</i> Guide on the assignment on parking and terminal facilities design</p> <p><i>iii.</i> Evaluate the assignment on terminal facilities design.</p>	<p>Design standard criteria.</p> <p>Tracing paper</p> <p>Pen sets</p> <p>Computers and graphic softwares.</p> <p>AO plotter</p> <p>A3 printer</p> <p>Vehicle</p>

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND II-SECOND</b>		
<b>COURSE TITLE:</b>	<b>TRANSPORT FINANCE</b>		
<b>DURATION:</b>	<b>2hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 0hr</b>
<b>CREDIT UNIT:</b>	<b>2</b>		
<b>COURSE CODE:</b>	<b>TPM 221</b>		
<b>GOAL:</b>	<b>This course is designed to equip the student with basic knowledge of Principles of Finance in Transportation Planning and Management</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of this course, the student should be able to:</b>		
	1.0 Understand the basic accounting procedure		
	2.0 Know the sources of Transport Finance		
	3.0 Know how to make Investment Decisions		
	4.0 Understand Profit Planning and Budget Control		
	5.0 Understand basic Risk analysis and Decision making in Transport Business.		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: TRANSPORT FINANCE</b>			<b>COURSE CODE:TPM 221</b>	<b>CONTACT HOURS: 2-0</b>		
<b>GOAL: The course is designed to equip the student with the basic knowledge of Principle of Finance in Transportation Planning and Management.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
	GENERAL OBJECTIVE 1.0: Understand the basic accounting procedure.					
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1 Define accounting 1.2 Explain ledger as a tool for accounting 1.3 Explain profit and loss account. 1.4 Distinguish between credit balance and debit balance in accounting. 1.5 Demonstrate how to balance simple account.	i. Define accounting ii. Explain ledger as a tool for accounting. iii. Explain profit and loss account. iv. Distinguish between credit balance and debit balance. v. Balance simple account.	Textbooks Journals and other relevant materials Computer Calculator Account ledger or note book			
	GENERAL OBJECTIVE 2.0: Know the sources of Transport Finance.					
2	2.1 Identify the various sources of Transport Finance. 2.2 Explain Financial Intermediaries.	i. identify various sources of Transport Finance. ii. Explain Financial Intermediaries	Textbooks Journals and other relevant materials			
	GENERAL OBJECTIVE 3.0: Know how to make Investment Decisions.					
3	3.1 Define Investment. 3.2 Explain Investment decision. 3.3 Explain the procedure for making investment	i. Define investment ii. Explain investment decision iii. Explain the procedure for	- Textbooks - Journals and other relevant materials			

	decision. 3.4 Explain Investment appraisal Technique.	making Investment Decision iv. Explain investment appraisal technique.				
GENERAL OBJECTIVE 4.0: Understand Profit Planning and Budget Control.						
4	4.1 Define profit planning. 4.2 Explain capital budgeting 4.3 Explain budget control.	i. Define profit planning ii. Explain capital budgeting iii. Explain budget control	Textbook Journals and other relevant materials			
GENERAL OBJECTIVE 5.0: Understand basic Risk Analysis and Decision making in Transport Business.						
5	5.1 Define Risk Analysis. 5.2 Explain project cost and cost audit as basis for decision making.	i. Define risk analysis. ii. Explain project cost and cost audit as basis for decision making.	Textbook Journals and other relevant materials			

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

<b>PROGRAMME:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND II - SECOND</b>		
<b>COURSE TITLE:</b>	<b>TRANSPORT SYSTEM MANAGEMENT</b>		
<b>DURATION:</b>	<b>2hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 0hr</b>
<b>COURSE CODE:</b>	<b>TPM 222</b>		
<b>CREDIT UNIT:</b>	<b>2</b>		
<b>GOAL:</b>	<b>The course is designed to enable the student know the basic principles of transport system management</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of the course, the student should be able to:</b>		
	1.0	Know the concept of Transport Management	
	2.0	Understand Transport System and Sub-Systems	
	3.0	Understand Transport Management Principles and their Application	
	4.0	Understand Transport Regulation and Practice	
	5.0	Know the Organization and Management of Transport System Terminals	
	6.0	Know Transport Operation and Control	



<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: TRANSPORT SYSTEM MANAGEMENT</b>			<b>COURSE CODE: TPM 222</b>		<b>CONTACT HOURS:2-0</b>	
<b>GOAL: The course is designed to enable the student to know the basic principles of transport system management</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
GENERAL OBJECTIVE 1.0: Know the concept of transport management						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1 -2	1.1 Define Management 1.2 State the functions of elements of Management e.g. Planning, Organizing, Forecasting etc. 1.3 Explain the concept of Management in transport system e.g. organizing transport office, managing a transport problem etc.	i. Define Management concept ii. Explain Management elements	Books, Journals and other Relevant Materials			
GENERAL OBJECTIVE 2.0: Understand transport system and sub-systems						
3-4	2.1 Explain transport system: Road, Air, Sea, Rail, Pipeline 2.2 Identify the sub-systems of the system 2.3 Explain the role of transport management agencies in the transport system	i) Explain Transport System ii) State The Sub-Systems Of Each Of The System iii) Explain The Role Of Transport Management Agencies				
GENERAL OBJECTIVE 3.0: Understand transport management principles and their application						
5	3.1 Explain transport	i. Explain	Books, Journals			

	management 3.2 Explain the basic principles of transport management	transport management ii. Explain the principles of transport management	and other relevant Materials			
GENERAL OBJECTIVE 4.0: Understand regulation and practice						
6-7	4.1 Explain Transport regulation 4.2 Explain Transport regulation practice 4.3 Explain transport regulation practice in developing countries 4.4 Explain transport regulation practice in developed countries	i. Explain the concept of transport regulation i. Compare the transport regulation practice in both developing and developed countries	Text books Journals			
GENERAL OBJECTIVE 5.0: Know the organisation and management of transport system terminals						
8-9	5.1 Define Terminal 5.2 Outline the factors to be considered for the location of terminals 5.3 State various types of terminals, their parts and functions 5.4 Describe the characteristics and organization of transport terminals	i. Define terminal ii. List the factors of terminal location iii. Enumerate various types of terminals, their components and functions iv. Explain the characteristics of transport terminals	Books or Transportation Planning			
GENERAL OBJECTIVE 6.0: Know transport operation and control						
10	6.1 Explain the transport operation	i) Describe the nature and types of	Books or Transportation			

	6.2 Explain the control of transport operation	transport operations ii) Explain the control of transport operations	Planning			
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<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND II -SECOND</b>		
<b>COURSE TITLE:</b>	<b>PROFESSIONAL ETHICS</b>		
<b>DURATION:</b>	<b>2hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 0hr</b>
<b>CREDIT UNIT:</b>	<b>2</b>		
<b>COURSE CODE:</b>	<b>TPM 223</b>		
<b>GOAL:</b>	<b>This course is designed to equip the student with the knowledge of professional ethics and their application in transportation planning and management.</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of this course, the student should be able to:</b>		
	1.0 Understand the evolution of transportation.		
	2.0 Know the requirement for the practice of the profession.		
	3.0 Understand the responsibilities of the transport.		
	4.0 Know the various laws relevant to the practice of the profession.		
	5.0 Know the code of professional conduct and practice of transportation.		
	6.0 Know the organizations where the transportation can render professional services.		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: PROFESSIONAL ETHICS</b>			<b>COURSE CODE: TPM 223</b>	<b>CONTACT HOURS:2-0</b>		
<b>GOAL: This course is designed to equip the student with the knowledge of professional ethics and their application in transportation planning and management.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
	<b>GENERAL OBJECTIVE 1.0: Understand the evolution of transportation</b>					
<b>Week</b>	<b>Specific Learning Objectives</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>	<b>Specific Learning Objective</b>	<b>Teacher's Activities</b>	<b>Learning Resources</b>
1-2	1.1 Explain the historical evolution of transportation in the world. 1.2 Describe the historical background of transportation in Nigeria. 1.3 Identify the factors that led to the evolution of transportation in general. 1.4 Relate how these factors have influence transportation in modern time.	i. Explain the historical evolution of transport in ancient and modern times. ii. Compare transport in both ancient and modern times with practical examples.	Books, Journals and Internet			
	<b>GENERAL OBJECTIVE 2.0: Know the requirement for the practice of the profession</b>					
3-4	2.1 Explain transport planning and management as a profession. 2.2 State the qualifications required to practice the profession.	i. Explain the transport planning and management profession.	Books, Journals and Internet			

	<p>2.3 Explain the scope and limitations of the profession.</p> <p>2.4 Examine the role of government in transportation planning and management.</p> <p>2.5 Explain the implication of the roles on the practice of the profession</p>					
GENERAL OBJECTIVE 3.0: Understand the responsibilities of the transportant.						
5	<p>3.1 Define transportant.</p> <p>3.2 Identify the responsibilities of a transportant.</p> <p>3.3 State the limitations of transportation.</p>	<p>i. Define transportant.</p> <p>ii. Explain the responsibilities and limitations of transportant.</p> <p>iii. Explain the limitations of transportant.</p>	Books, Journals and Internet			
GENERAL OBJECTIVE 4.0 Know the various laws relevant to the practice of the profession						
6-7	<p>4.1 State the laws establishing the Chartered Institute of Logistics and transport (CILT) in Nigeria and UK.</p> <p>4.2 Examine the contents of these laws.</p>	<p>i. Compare laws related to CILT in Nigeria and UK.</p> <p>ii. Explain the relationship between CILT in the UK and Nigeria</p>	Laws of the Chartered ILT in UK and Nigeria CILT Handbook			
GENERAL OBJECTIVE 5.0: Know the code of professional conduct and practice of Transportant.						
8-9	5.1 Cite the code of professional conduct	i. Explain the significance and	Professional code of conduct and			

	<p>and practice of the profession.</p> <p>5.2 Apply the code in all activities of the transportant.</p> <p>5.3 Identify professional integrity in the code of professional conduct and practice.</p> <p>5.4 Explain the professional obligations in the code of professional conduct and practice.</p> <p>5.5 Examine the ethics of the profession.</p>	<p>contents of the code of professional conduct and practice of the CILT in Nigeria.</p> <p>ii. Explain the code application in professional practice.</p> <p>iii. Explain professional integrity, protocol professional obligation and ethics in the profession.</p> <p>iv. Compare the code of professional conduct in Nigeria and the UK.</p>	<p>practice in Nigeria and the UK CILT handbook</p>			
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<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND II -SECOND</b>		
<b>COURSE TITLE:</b>	<b>WATER TRANSPORTATION PLANNING DESIGN STUDIO IV</b>		
<b>DURATION:</b>	<b>3hrs</b>	<b>THEORY: 1hr</b>	<b>PRACTICAL: 2hrs</b>
<b>CREDIT UNIT:</b>	<b>3</b>		
<b>COURSE CODE:</b>	<b>TPM 224</b>		
<b>GOAL:</b>	<b>The course is designed to equip the student with methods of water transportation planning.</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of this course, the student should be able to:</b>		
	1.0 Understand the basic concept of water transport		
	2.0 Know the major shipping lines in the world.		
	3.0 Understand relationship between water and other forms of transport		
	4.0 Understand management and operation practices in the shipping industry		
	5.0 Understand management techniques and operating practices		
	6.0 Know how to design basic water transport facilities.		



<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: WATER TRANSPORTATION PLANNING DESIGN STUDIO IV</b>			<b>COURSE CODE: TPM 224</b>		<b>CONTACT HOURS: 1-2</b>	
<b>GOAL: This course is designed to equip the student with methods of water transportation planning.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
GENERAL OBJECTIVE 1.0: Understand the basic concept of water transport.						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1-2	1.1 Explain water transport development. 1.2 Explain characteristics of water transport 1.3 Explain organization of maritime transport	i. Explain water transport, its importance and characteristics ii. Explain organizations involved in maritime transport	Book, Journals and document on internet			
GENERAL OBJECTIVE 2.0: Know the major shipping lines in the world						
3-4	2.1 Identify major shipping lines in the world. 2.2 Explain shipping performance and capacity. 2.3 Explain various means of maritime power.	i. Explain major international shipping lines and describe shipping performance and capacity. ii. Explain power generation methods and means in maritime transport.	Books, Journals and Relevant publications			
GENERAL OBJECTIVE 3.0: Understand relationship between water and other forms of transport						
5	3.1 Explain types of services provided by maritime transport such as deep sea passengers/cargo liner 3.2 Explain inland water transport and maritime	i. Relate maritime transport to other forms such as road, rail and air. ii. Explain the services provided	-WTO publication and other relevant publications, books and journals			

	transport organization.	by water transport.  iii. Explain inland water transport and maritime transport organization.				
GENERAL OBJECTIVE 4.0: Understand management and operation practices in the shipping industry.						
6-7	4.1 Explain management and operational practices in the shipping industry. 4.2 Explain policy formulation and implementation in maritime industry.	i. Explain management operational practices in shipping industry. ii. Explain policy formulation and implementation at both national and international levels in maritime transport.	Journal of maritime transport and W.T.O Publications Relevant Books and journals			
GENERAL OBJECTIVE 5.0: Understand Management techniques and operating practices						
8-9	5.1 Explain management techniques and operating e.g. schedule, routes and crew. 5.2 Explain legal requirements and operations in maritime. 5.3 Describe rural accessibility. 5.4 Describe the mobility aspect of rural transportation.	i. Explain mgt. tech and operating practices. ii. Explain legal requirements and operations in maritime.	Journal of maritime transport W.T.O Publications Relevant books.			
GENERAL OBJECTIVE 6.0: Know how to design basic water transport facilities						

10-12	<p>6.1 Explain training and licensing of operating crew.</p> <p>6.2 Explain design of basic water facilities like port terminals and jetties.</p> <p>6.3 Explain regulatory licensing of maritime transport</p>	<p>i. Explain training and licensing of operating crew.</p> <p>ii. Explain design of basic water facilities like port terminals and jetties.</p> <p>iii. Explain regulatory licensing of maritime transport.</p>	<p>Video Clips Journal and related Textbooks</p>	<p>i. Undertake field trip to water terminal facilities.</p> <p>ii. Design a simple water transport terminal.</p> <p>iii. Write and present report.</p>	<p>* Give an assignment on simple design of water transport terminal.</p> <p>* Guide on the assignment on simple water transport terminal.</p> <p>iii. Evaluate the assignment on design of a simple water transport terminal</p>	<p>Design standard Criteria Tracing paper Pen sets Computers and graphics soft wares -A0 plotter -A3 printer</p>
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Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANGEMENT</b>		
<b>SEMESTER:</b>	<b>ND II – SECOND</b>		
<b>COURSE TITLE:</b>	<b>PROJECT</b>		
<b>DURATION:</b>	<b>4hrs</b>	<b>THEORY: 1hr</b>	<b>PRACTICAL: 3hrs</b>
<b>CREDIT UNIT:</b>	<b>4</b>		
<b>COURSE CODE:</b>	<b>TPM 225</b>		
<b>GOAL:</b>	<b>This course is designed to enable the student know how to undertake a detailed study on Transportation Planning and Management.</b>		
<b>OBJECTIVES:</b>	<b>On completion of the course, the student should be able to:</b>		
	1.0 Know the purpose of Project.		
	2.0 Know the common problems associated with project.		
	3.0 Know how to collect, interpret and present data.		
	4.0 Know the stages involved in terminal project.		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: PROJECT</b>			<b>COURSE CODE: TPM 225</b>		<b>CONTACT HOURS: 1-3</b>	
<b>GOAL: This course is designed to enable the student know how to undertake a detailed study on Transportation Planning and Management.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>				<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>		
	<b>GENERAL OBJECTIVE 1.0: Know the purpose of Project</b>					
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1 Explain project in relation to transport planning and management  1.2 Explain the importance of project.	i. Explain project in relation to transport planning and management ii. Explain the importance of project	Books, Journals and other relevant materials.			
	<b>GENERAL OBJECTIVE 2.0: Know the common problems associated with project.</b>					
2	2.1. Explain choice of project topic. 2.2. Differentiate between researchable and non-researchable topics. 2.3. Enumerate problems expected on the field eg. Questionnaire administration, gathering of data etc. 2.4 Explain how to solve identified problems importance of transportation resources.	(i) Explain how topics are chosen. (ii) Explain different types of resources. (iii) Explain the importance of transportation resources. (iv) Explain probable solutions to identified problems with project work.	Libraries, conference papers, interactions from FMT.			
	<b>GENERAL OBJECTIVE 3.0: Know how to collect, interpret and present data.</b>					
3	3.1 Explain methods of data collection	i. Explain methods of data collection	Conference papers and literature from			

	<p>3.2 Distinguish between various sampling techniques</p> <p>3.3 Describe methods of data interpretation</p> <p>3.4 Describe methods of data presentation</p>	<p>ii. Explain the various sampling techniques</p> <p>iii. Describe data interpretation and presentation</p>	FMT			
GENERAL OBJECTIVE 4.0: Know the stages involved in terminal project						
4	<p>4.1 Explain the arrangement of ideas in a sequence</p> <p>4.2 Provide the completed work</p> <p>4.3 Bind the work in book form.</p> <p>4.4 Present the project individually to assessors.</p>	<p>i. Explain the ideas in sequence</p> <p>ii. Guide student to produce the completed work</p> <p>iii. Explain how to market and distribute different products and services.</p>	Past projects			

<b>PROGRAMME TITLE:</b>	<b>NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>		
<b>SEMESTER:</b>	<b>ND II -SECOND</b>		
<b>COURSE TITLE:</b>	<b>TRANSPORT OPERATIONS AND MANAGEMENT</b>		
<b>DURATION:</b>	<b>2hrs</b>	<b>THEORY: 2hrs</b>	<b>PRACTICAL: 0hr</b>
<b>CREDIT UNIT:</b>	<b>2</b>		
<b>COURSE CODE:</b>	<b>TPM 226</b>		
<b>GOAL:</b>	<b>This course is designed to enable the student understand the operations and management of various modes of transport.</b>		
<b>GENERAL OBJECTIVES:</b>	<b>On completion of this course, the student should be able to:</b>		
	1.0 Know the elements of marketing		
	2.0 Know Transport Business policy and objectives		
	3.0 Understand Transport Operations and Management		
	4.0 Know tasks and philosophies of Marketing Management		
	5.0 Know the application of Transport Marketing in Nigeria		
	6.0 Know Transport Regulations and Practice		
	7.0 Know vehicle routing and scheduling		

<b>PROGRAMME: NATIONAL DIPLOMA IN TRANSPORTATION PLANNING AND MANAGEMENT</b>						
<b>COURSE: TRANSPORT OPERATIONS AND MANGEMENT</b>			<b>COURSE CODE:TPM 226</b>		<b>CONTACT HOURS: 2-0</b>	
<b>GOAL: This course is designed to enable the student understand operations and management of various modes of transport.</b>						
<b>COURSE SPECIFICATION: THEORETICAL CONTENT</b>			<b>COURSE SPECIFICATION: PRACTICAL CONTENT</b>			
GENERAL OBJECTIVE 1.0: Know the elements of marketing.						
Week	Specific Learning Objectives	Teacher's Activities	Learning Resources	Specific Learning Objective	Teacher's Activities	Learning Resources
1	1.1 Define marketing in relation to transport 1.2 Explain the elements of marketing in relation to transport 1.3 Explain the role of each element of marketing.	Define the concept of marketing in relation to transport. Explain the elements of marketing in relation to transport. State the role of each element of marketing.	Books, journals projectors etc. Audio visual aids			
GENERAL OBJECTIVE 2.0: Know Transport Business Policy and Objectives						
2	2.1 Explain the Transport business policy 2.2 List the policy of transport objectives and explain each of the objectives 2.3 Describe the modes of Transport Policy	i. Define Marketing and business policy in relation to transport development. ii. Explain the objectives of Transport Policy iii. Explain the modes of transport	Books, Journals, Audio Visual			
GENERAL OBJECTIVE 3.0: Understand Transport Operations and Management						
3	3.1 Explain Transport Operations 3.2 Define transport management	i. Define transport management ii. Explain the operation and management of	.			



		different modes of transport iii. Highlight the management role in transport organization				
<b>GENERAL OBJECTIVE 4.0: Know tasks and philosophies of Marketing Management</b>						
4	4.1 Explain the tasks and philosophies of marketing management 4.2 Explain the role of each task 4.3 Explain the underlying philosophy marketing	i. Explain tasks and philosophy of marketing ii. State the role of each table iii. Explain how to market and distribute different products and services.	Books, Journals White Board and Audio visual aids.			
<b>GENERAL OBJECTIVE 5.0: Know the application of Transport Marketing in Nigeria</b>						
5	5.1 Explain application of transport marketing in Nigeria 5.2 Examine the level of transport marketing 5.3 Explain the best marketing strategy	i. Highlight the different strategies of marketing and services	Books, Journals White Board and Audio visual aids.			
<b>GENERAL OBJECTIVE 6.0: Know Transport Regulations and Practice</b>						
6	6.1 Explain transport regulations guiding transport. 6.2 Examine the existence of the National Regulators and their functions. 6.3 Examine the provision	i. State transport laws and regulation. ii. Explain laws guiding the practice. iii. Identify safety regulation.	Books, journals, Audio visual Power point presentation			

	of the laws. 6.4 Explain the transport practice in term of safety etc.					
<b>GENERAL OBJECTIVE 7.0: Know vehicle routing and scheduling</b>						
7	7.1 Explain vehicle routing 7.2 Explain vehicle scheduling	i. Explain elements of vehicle routing ii. Explain features of vehicle scheduling				

Continuous assessment should be 40% while semester examination should be 60% to make a total of 100%.

## LIST OF MINIMUM RESOURCES FOR ND TRANSPORTATION PLANNING AND MANAGEMENT PROGRAMMES

All the under listed items are the minimum required for these programme and must therefore be provided.

2

### I Studio/Drawing Room

#### A. Studio

1. Drawing Boards with Drafting Machine	30 per studio
2. Light table	2 per studio
3. Standard drawing tables/stools for students	1 per student
4. Set of blackboard drawing instruments	2 sets each
5. Pantograph	1
6. Overhead projector	1
7. Projector screens	1
8. Sides projector	4
9. Drawing cabinets	4
10. Sets of drawing pen	4 sets
11. Lettering set	4 sets
12. Adjustable set square	4 sets
13. Enlargement/reduction machine	1
14. Exhibition board fitted with stands	2 per studio
15. Large tables of enlargement and reduction	2
16. Electronic calculators	2
17. Circle template	4
18. French curve	4
19. Elipse template	4
20. Fixture template	4
21. Flexible curve	6
22. Standard T-squares	1 per student
23. Pencil sharpeners	4
24. Pocket stereoscopes	10
25. Scale rules	4

#### II TRANSPORTATION PLANNING LABORATORY

1. Desk Top computers accessories with necessary softwares	30
2. Computer Printers	2

3. Digital Camera	6
4. Lamination machine	2
5. Video camera	6
6. Statistical table	30
7. Calculator	30
8. Traffic counter	30
9. Local Map	
10. Base Map	
11. Manual counter	20
12. Auto counter	20
13. Volumes counter	20
14. Canoe	
15. Hat	30
16. Rain coat	30
17. Audio visual	1
18. A0 Plotter	1
19. A3 Printers	1
20. Trimming machine	1
21. Photostating machine centrally used	1
22. Scanning machine centrally used	1
23. Steel cabinets	
24. Vehicle (Field trip)	1

### **III. SURVEYING EQUIPMENT STORE**

1. Theodolite with tripods	3
2. Tachometer with tripods	3
3. Dumpy levels with tripods	3
4. Prismatic compass with tripods	3
5. Plane tables with tripods	3
6. 30 meters chains	10
7. Steel band (100mm)	3
8. Steel band with accessories (Thermometer spring balance, etc).	3
9. Levelling staff - upright	3

- inverted	6
10. Shoes for leveling staff	6
11. Set of arrows	10
12. Plan meters – metric	1
13. Ranging rods/poles	12
14. Tapes (measuring tape)	4
15. Abney levels	3
16. Optical squares	3
17. Clinometers	3
18. Alidade	6
19. Survey umbrella	2
20. Red flags	4
21. Drawers for storing maps	4
22. Camping tent	2
23. Four wheel drive vehicle	1

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