

LIST OF COURSES

First Semester

All M. Tech students in Transport Management shall offer the following core courses in the first semester plus minimum of two other electives from the following courses:

Compulsory Courses

COURSE CODE	TITLE	CREDIT UNIT
MTM 801	QUANTITATIVE METHODS IN TRANSPORTATION STUDIES	3
MTM 803	HISTORY OF TRANSPORT	3
MTM 805	TRAFFIC EDUCATION AND SAFETY	3
MTM 803	MARIME TRANSPORT	3
MTM 809	LAW OF BUSINESS AND CARRIAGE	3
MTM 811	AIR TRANSPORT	3
	TOTAL	18

ELECTIVE COURSES FIRST SEMESTER

COURSE CODE	TITLE	CREDIT UNIT
MTM 813	RURAL TRANSPORT	2
MTM 815	TRAFFIC MANGEMENT AND CONTROL	2
MTM 817	TRANSPORT AND ENVIRONMENTAL	2
MTM 819	LAND FREIGHT PLANNING AND MANAGEMENT	2
MTM 821	TRANSPORT AND THEORISM	2
	TOTAL	10

Second Semester

All M. Tech students in Transport Management shall offer the following core courses in the Second semester plus minimum of two other electives from the following courses:

Compulsory courses

COURSE CODE	TITLE	CREDIT UNIT
MTM 802	TRANSPORT ECONOMICS	3
MTM 804	TRANSPORT AND TRAFFIC SURVEY METHOD	3
MTM 806	TRANSPORT POLICY ANALYSIS	3
MTM 808	LOGISTICS AND PHYSICAL DISTRIBUTION MANAGEMENT	3
MTM 810	RAIL TRANSPORT	3
MTM 812	MANAGEMENT ACCOUNTING AND FINANCE IN TRANSPORT SECTOR	3
MTM	RESEARCH METHODOLOGY	3
	TOTAL	18

ELECTIVE COURSES SECOND SEMESTER

Course code	Title	Credit unit
MTM 814	INDUSTRIAL RELATIONS IN THE TRANSPORT SECTOR	2
MTM 816	PUBLIC TRANSPORT OPERATION AND MANAGEMENT	2
MTM 818	TRANSPORT FOR SPECIALIZED NEED	2
MTM 820	TRANSPORT AND SOCIETY	2
MTM 822	TRANSPORT AND DEVELOPMENT	2
	TOTAL	10

THIRD AND FOURTH SEMESTER

Course Code	Title	Credit unit
MTM 830	PROJECT	6

DESCRIPTION OF COURSES

MTM 801: QUANTITATIVE METHODS IN TRANSPORTATION

STUDIES

Introduction to advanced research methods, application of statistical/mathematical concept in transport planning, analysis of point, patterns, covariance and multi-variance methods, mathematical modeling techniques, viz stochastic, optimizing and entropy model. Introduction to multi-variance statistical analysis, factor and principal component analysis, linear surface mapping, time series analysis, linear programming, introduction to computer application in transport studies.

MTM 803 HISTORY OF TRANSPORT

Transport and pre-industrial era, transport and the industrial revolution, the emergence of the railway system, the development of motor transport, rail/road competition, the development of maritime transport, history of Nigerian transport, history of air transport.

MTM 802: TRANSPORT ECONOMICS

Definition of economic, micro vs macro economic concepts, transport economics, transport demand, transport supply, transport pricing, taxes and subsidies or transport consumer satisfaction. Illustration examples from all modes of transport.

MTM 804: TRANSPORT AND TRAFFIC SURVEY METHODS:

Theory and practice of survey research, planning, sampling questionnaire construction, interviewing consent analysis, machine tabular analysis of data, field work, data collection and organization, types of traffic surveys, step in conducting surveys traffic volume counts, parking counts, estimation of traffic Delays and spends by moving car observer and methods. Pedestrian traffic counts and crossing delays, origin – destination surveys, (including journey purpose), accident survey, some interview surveys, screen ling and cordon surveys.

MTM 813: RURAL TRANSPORT

Rural transport needs/ rural transport freight characteristics. Characteristic of rural transportation schemes, the principle of market centers, complementarily between rural an urban transport network. Transport and rural development, Rural settlement Planning in development and developed countries. \

MTM 805: TRAFFIC EDUCATION AND SAFETY

Historical development of transportation planning. Data inputs (from surveys) matrix-building origin-destination matrices and data analysis. Trip generation, trip distribution modal split, traffic assignment, traffic growth and forecasting. Patterns of travel, frequency, and relationship with socio-economic characteristic. Modeling techniques of travel pattern. Illustrative examples from all modes, Landuse transportation planning.

MTM 814: INDUSTRIAL RELATIONS IN THE TRANSPORT SECTOR

Environment framework of industrial relation in Nigeria and its practices in Transport Industry. The development, growth and problems of Trade Unions. The structure of Nigeria Labour movement in Transport sector, management and labour Relation policy. General principle of voluntary collective bargaining. Employer's Association – organization and role, relationship with government and other bodies. Case studies from the different modes of transport.

MTM 807: MARITIME TRANSPORT

Maritime transport the economic and analytical standpoints, major shipping markets. Institutional legal and other and issues in maritime transport. Optimum ship design. Finance and taxation balance of payment effects on maritime. Maritime freight planning and management. Role of shipping in both developed and development countries.

MTM 815: TRAFFIC MANAGEMENT AND CONTROL

Road traffic law and regulations, measure to improve traffic for public transport, channelization and storage lanes, traffic signals one way street banning right turns or left turns, bus lanes pedestrianization, altering travel pattern e.g. use of bye-pass for through traffic. Road signs, signs of letters designs and legibility distance comprehensibility of signal pavement signs. Location and operation of parking lots. Traffic volume and parking lots designs safety at parks, toll collection and parking, traffic and park management.

MTM 811: AIR TRANSPORT

Economics and commercial aspects of Air Transport, Airlines and Air and Air transport. Airline and operations and their economics regulation. Air freight operations and management. Air Transport infrastructural requirement environment issue in Air transport operation. Role of Air transport both the developed and developing countries.

MTM 817: TRANSPORT AND ENVIRONMENT

Theoretical background land water and air pollutions in relation to transport development. Transport and global warming. Transport and environmental degradation road wear and tear, vibrations, delays and visual instructions. Problems of traffic centers.

MTM 816: PUBLIC TRANSPORT OPERATION AND MANAGEMENT

Public transport in the global context, Role of private enterprise in public transportation. Operation and administration of public transport in developed and developing countries. Operation and administration of public transport in different modes of transport, road rail and inland waterways problem of public transport in development of mass transit programme in Nigeria. Operation and Management of mass transit, problem of mass transit programme in Nigeria.

MTM 819 LAND FREIGHT PLANNING AND MANAGEMENT

Characteristics of private transport systems, vehicle ownership structure, vehicle owners and drivers. Private transport interest, vehicle, maintenance and refurbishing. Freight planning, Freight management. Historical, political, operational and financial aspects of railway management, example drawn from developed and developing countries. Development of road transport programme road rail haulage and management vehicle customs standardization.

MTM 818: PRINCIPLES OF TRAFFIC ENGINEERING

Fundamentals of traffic engineering in transport. Transport network analysis, and road design. Road standards and carrying capacity (weight). Bridge construction, traffic control and automation, roundabouts and curves, T-junctions, car parks designs and terminals. Traffic engineering in shipping operations, air traffic control and operations. Rail traffic signals.

MTM 806: TRANSPORT POLICY ANALYSIS

Government transport policy. Rationale of government intervention in the transport sector. Transport port policy strategies, evaluation and impact of transport policy on economic sector of the nation. Formulation and implementation of transport policy. National planning policies and role of transport.

MTM 820: TRANSPORT AND SOCIETY

The needs of society for transport, and the impact of transport modes with regard to ownership (public and private) transport control (regulation). Relationship of

transport to landuse and the environment, energy needs of transport. Cultural influence on modal patronage of transport in developed countries.

MTM 822: TRANSPORT AND DEVELOPMENT

Theoretical background of transport and development, active, and permissive roles. Transport and generation of employment, transport and economic productions, transport and trade, transport and tourism. Transport and political and economic integration. Role of Telecommunication in spatial interaction, telecommunication, travel behavior and regional development.

MTM 810: RAIL TRANSPORT

Evolution or rail Transport. Rail Transport and National Economy. Rail Operation within the context of through Transport. Rail Infrastructure, Terminals/Tracks. Rail Traffic Management Control Railway and Freight movement Railway and Passenger Movement. Nigeria Railway Corporation, Rail Transport Management. Socio-Economic and Environmental Issues in Rail Transport Technology and Rail Operation and Society.

MTM 809: LAW OF BUSINESS AND CARRIAGE

Law of contract in transport partnership; insurance by types and for transport mode; Government and business, Statutory Responsibilities/Duties of Transport Undertakings; Principle of indemnity.

Law of carriage in different mode of transport:

(i) **Sea Transport and Marine Insurance:**

Good- charter parties and Bills of Lading. The Preliminary voyage, Loading Discharge and delivery, limitation of liability; Marine Policy warranties; cause proxima; General Average loss.

(ii) **Land Transport**

Good- Parties to contract; Bailment, common and private carries, liability at common law and under standard condition of carriage; Privities of contract, consigner's warranty of fitness, Terms and condition of Carriage; The carriage of Luggage; CPOTIF and CMR conventions. Motor Insurance; Type, certificate; foreign etc.

(iii) **Aviation Transport**

ICAO, IATA, Aviation Insurance.

MTM 812 MANAGEMENT ACCOUNTING AND FINANCE IN TRANSPORT SECTOR

Control theory in Accounting: standard costing, marketing strategy, performance evaluation techniques. Profitability criteria and ratios. Nature of and return on capital. Transfer pricing. Management of working capital in Transport valuation of transport business. Effects of taxation and other governmental policies on

investment and financial decision. In transport Sector. Cost-benefit analysis of transport projects. Intra-company performance evaluation. Financial imports and exports of transport related goods.

MTM 828: TRANSPORT TECHNOLOGY

(A) Infrastructural base for transport;

(i) Way and Routes, special characteristics of the various ways and

Routes in different modes of transport. Factors limiting traffic capacity, traffic control systems and means of communicating with or controlling the vehicle on route. Special maintenance problems associated with track, highways, runways, etc.

(ii) Terminals and Interfaces: Planning Design and operation of terminals one or modes of transport simultaneous.

(B) Motive Power; Vehicle Design and Operation;

(i) Motive Power; Basic power cycles and efficiencies of Otto Diesel and Gas Turbine Engines. Fuel consumption and specific weight of typical engines. Complete power unit (including transmission) efficiencies.

(ii) Vehicles Design: Vehicles designs for safety, weight control of vehicles, special control problems of vehicle (e.g. maneuvering in confined areas). Specialized vehicle design e.g. for containers. Effect of environmental controls on vehicle design.

(iii) Operation of Vehicle: Breakdown of operating costs of vehicle.

Methods of operation which minimize operation Maintenance of vehicle, Three stages programmed or planned maintenance, overhaul or refit. Fault diagnosis and rectification of defect in service. Replacement and defect analysis. Statutory requirement concerning maintenance. Duties and responsibilities of regulatory bodies and operators.

MTM 821: TRANSPORT AND TOURISM

Definition of tourism and common terms in the context, e.g. inclusive tourism package holiday etc. The main tourist markets; and the Principle areas and destinations which cater for them. Historical growth of tourism; Recent trends and development in holiday and leisure travel; Demand and supply factors of tourism; Patterns and major Implication of tourism. Transport for Tourism, National Regional and Local Policy on Tourism Financial Operational and Commercial Aspects of Tourism. Tourism and the Public interest.

MTM 808: LOGISTIC/ PHYSICAL DISTRIBUTION MANAGEMENT

The organization and principal characteristics of distribution management. The interaction between material handling, freight transport, packaging ware-house location and management; inventory control, communication and data processing; the importance of distribution channels; the total distribution concept in theory and practice and application to the commercial policy of the business. The significant of logistics and distribution, managing logistics and distribution system; Network planning techniques to obtain optimum movement capacity and required level of customer service; the implication of electronic of electronic data processing and the need for data banks; analysis of traffic demands, forecasts and performance.

MTM 830: PROJECT (6C)

Independent works in a chosen area of transport under the supervision of lecturer in the Department and should not exceed 15,000 words, (Maximum 150 pages A4, double line spacing).

MTM 832: INTERNSHIP/ SEMINAR (3C)

Student to undergo a 6 week in recognized transport establishment, and will be expected to present at Departmental seminar, paper on approved transport related topics emanating from the internship programme. (At the beginning of third semester)