

# Civil Engineering Technology - National Diploma (ND)

## MANAGEMENT

Entrepreneurship Development I ..... 2  
Entrepreneurship Development II ..... 6  
Construction Management ..... 9

# Entrepreneurship Development I

<b>PROGRAMMES: CIVIL ENGINEERING</b>			
<b>Course: Entrepreneurship Development I</b>		<b>Course Code: SDV 210</b>	<b>Contact Hours: 2 - 0 - 0</b>
<b>Course Specification: Theoretical Content</b>			
<b>General Objective 1.0: Understand the basic concept of entrepreneurship</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teachers activities</b>	<b>Resources</b>
1	1.1 Define entrepreneurship, entrepreneur, small business and self- employment. 1.2 State the entrepreneurship philosophy identify entrepreneurial characteristics. 1.3 Identify entrepreneurial characteristics. 1.4 Define development enterprise.	• Lecture and site examples of each.	• Chalkboard
<b>General Objective 2.0: Understand the historical perspective of entrepreneurship development</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teachers activities</b>	<b>Resources</b>
2	2.1 Historical perspective. 2.2 Trace the origin of entrepreneurship. 2.3 Explain organizational structure. 2.4 Explain the role of an entrepreneur. 2.5 Explain the reasons for business failure.	• Trace the historical evolution of business enterprise citing example Highlight the reasons for their failure/success.	• Chalkboard
<b>General Objective 3.0: Know how to plan a business enterprise/project.</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teachers activities</b>	<b>Resources</b>
	3.1 Define the concepts: planning, business enterprise and project. 3.2 Explain the importance of planning to a business enterprise. 3.3 Analyse the skills and Techniques of starting and managing small business successfully.	• Lecture and illustrate with examples. • Highlight to the students the initial problems likely to be faced. • Invite a successful entrepreneur to deliver lecture to the students.	• Chalkboard
4 - 5	3.4 Prepare and present project proposal. 3.5 Manage a small business profitably.	• Lecture and introduce the students to the formats of various project proposal.	• Chalkboard

<b>PROGRAMMES: CIVIL ENGINEERING</b>			
<b>Course: Entrepreneurship Development I</b>		<b>Course Code: SDV 210</b>	<b>Contact Hours: 2 - 0 - 0</b>
<b>Course Specification: Theoretical Content</b>			
<b>General Objective 4.0: Know how to operate simple stock keeping records</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teachers activities</b>	<b>Resources</b>
6	4.1 Ordering spare parts/materials 4.2 Receipt of parts/materials 4.3 Storage of parts/materials 4.4 Issue of parts/materials	• Lecture and demonstrate to students how to write receipt and keep records of ordering, storage and issue materials.	• Store or any storage facility Record note-books.
<b>General Objective 5.0: Know how to prepare and operate cash flow on spreadsheets</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teachers activities</b>	<b>Resources</b>
7	5.1 Need for different records (capital, revenue, credit transaction, tax)	• Lecture and demonstrate for the students to appreciate • Give practical exercise to students.	• Chalkboard and Computer
8	5.2 Formatting spreadsheet 5.3 Operating spreadsheet		
<b>General Objective 6.0: Understand employment issues</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teachers activities</b>	<b>Resources</b>
9	6.1 Define the terms: education, training and development. 6.2 Retate education, training and development to employment. 6.3 Distinguish between skills and employment. 6.4 Explain the role of the private sector in employment generation.	• Lecture and cite examples.	• Chalkboard.
	6.5 Identify the forms and informal sectors. 6.6 Explain the issues of: (i) Rural youth and employment (ii) Urgan youth and employment.		

<b>PROGRAMMES: CIVIL ENGINEERING</b>			
<b>Course: Entrepreneurship Development I</b>		<b>Course Code: SDV 210</b>	<b>Contact Hours: 2 - 0 - 0</b>
<b>Course Specification: Theoretical Content</b>			
<b>General Objective 7.0: Understand the Nigerian Legal System</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teachers activities</b>	<b>Resources</b>
10	7.1 Explain the nature of law. 7.2 Analyse the sources of Nigerian laws. 7.3 Evaluate the characteristics of Nigerian Legal System.	• Lecture	• Chalkboard
<b>General Objective 8.0: Comprehend the nature of contract and tort</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teachers activities</b>	<b>Resources</b>
11	8.1 Define contract. 8.2 Explain types of contracts 8.3 State the basic requirements for a valid contract. 8.4 Analyse contractual terms.	• Lecture	• Chalkboard
12	8.5 Examine vitiating terms. 8.6 Explain breach of contract and remedies. 8.7 Define Tort. 8.8 Explain types of Tort. 8.9 Discuss tortuous liabilities and remedies.	• Lecture	• Chalkboard
<b>General Objective 9.0: Understand Agency and Partnership</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teachers activities</b>	<b>Resources</b>
13	9.1 Define agency 9.2 Explain creation of Agency 9.3 Explain authority of the agent. 9.4 Analyse the rights and duties of principal agent and third parties. 9.5 Explain termination of agency and remedies.	• Lecture	• Chalkboard
	9.6 Define partnership. 9.7 Examine creation of partnership. 9.8 Explain relations of partners to one another and to persons dealing with them. 9.9 Analyse dissolution of partnership and remedies.	• Lecture and cite examples	• Chalkboard

**PROGRAMMES: CIVIL ENGINEERING**

**Course: Entrepreneurship Development I**

**Course Code: SDV 210**

**Contact Hours: 2 - 0 - 0**

**Course Specification: Theoretical Content**

**Competency:** The student will understand and have sufficient knowledge to plan the establishment of a small business and realize the pitfalls involved.

**Assessment:** Coursework 20% Course tests 20% Practical 0% Examination 60%.

**References:**

1. Wole Adewumi, "Business Management An Introduction", McMillan Nig. Ltd. Lagos. 1988.
2. Soji Olokoyo, "Small Business Management Guide Entrepreneurs", Ola Jamon Printers and Publishers, Kaduna.

## Entrepreneurship Development II

<b>PROGRAMMES: CIVIL ENGINEERING</b>			
<b>Course: Entrepreneurship Development II</b>		<b>Course Code: SDV 211</b>	<b>Contact Hours: 1-0-1</b>
<b>Course Specification: Theoretical Content</b>			
<b>General Objective 1.0: Understand Financial Management</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teacher Activities</b>	<b>Resources</b>
1	1.1 Define financial management 1.2 Explain sources and types of finding 1.3 Define the concepts of cost, price, revenue, profit and break-even point. 1.4 Explain financial statements e.g budgeting, balance sheet, profit and loss accounts, and cash flow budget.	• Lecture	• Chalkboard
2	1.5 Apply financial statements in business management.		
<b>General Objective 2.0: Know how to prepare simple accounts.</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teacher Activities</b>	<b>Resources</b>
3	2.1 Dealing with assets 2.2 Preparing profit and loss statement.	• Lecture and demonstrate with examples	• Chalkboard Examples of a balance sheet.
4	2.3 Preparing balance sheet.		
<b>General Objective 3.0: Know simple cost preparation</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teacher Activities</b>	<b>Resources</b>
5	3.1 Determining labour costs. 3.2 Determining direct machine cost.	• Lecture. • Give students examples in each area.	- Ditto -
6	3.3 Determine Overheads: labour, machine, and general		
<b>General Objective 4.0: Know product and job costing</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teacher Activities</b>	<b>Resources</b>
7	4.1 product costing 4.2 Job costing 4.3 Project costing	• Lecture • Give student a are history of study.	- Ditto - • Case study data.

<b>PROGRAMMES: CIVIL ENGINEERING</b>			
<b>Course: Entrepreneurship Development II</b>		<b>Course Code: SDV 211</b>	<b>Contact Hours: 1-0-1</b>
<b>Course Specification: Theoretical Content</b>			
<b>General Objective 5.0: Understand the Laws relating to formation of Companies of Companies</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teacher Activities</b>	<b>Resources</b>
8 - 10	5.1 Identify the fundamental concepts in company law. 5.2 Explain memorandum and Articles of Association. 5.3 Explain promoters, promotion and the prospectus. 5.4 Distinguish between shares and debentures. 5.5 Analyse the functions and powers of Directors, Secretaries and Auditors. 5.6 Explain liquidation of companies.	<ul style="list-style-type: none"> <li>• Lecture and give the students problems</li> </ul>	<ul style="list-style-type: none"> <li>• Chalkboard</li> </ul>
<b>General Objective 6.0: Comprehend Labour and Industrial Law</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teacher Activities</b>	<b>Resources</b>
11	6.1 Analyse the laws relating to employer - employee relationship 6.2 Explain industrial safety laws. 6.3 Examine water and public health laws. 6.4 Evaluate land acquisition.	<ul style="list-style-type: none"> <li>• Lecture</li> </ul>	<ul style="list-style-type: none"> <li>• Chalkboard</li> </ul>
<b>General Objective 7.0: Understand Copyright and patent laws</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teacher Activities</b>	<b>Resources</b>
12 - 13	7.1 Explain copyrights 7.2 Explain patent. 7.3 Explain rights and liabilities under the copyrights and patent laws. 7.4 Evaluate breach and remedies	<ul style="list-style-type: none"> <li>• Lecture</li> </ul>	
<b>General Objective 8.0: Comprehend the nature of sale of goods</b>			
<b>Week</b>	<b>Specific Learning Outcome</b>	<b>Teacher Activities</b>	<b>Resources</b>
14 - 15	8.1 Define contract of sale of goods 8.2 Distinguish sale of goods from other contracts e.g. lease, hire purchase and works and materials. 8.3 Explain duties of the parties. 8.4 Explain passing of properties and titles. 8.5 Examine breach and remedies.	<ul style="list-style-type: none"> <li>• Lecture</li> </ul>	

**PROGRAMMES: CIVIL ENGINEERING**

**Course: Entrepreneurship Development II**

**Course Code: SDV 211**

**Contact Hours: 1-0-1**

**Course Specification: Theoretical Content**

**Competency:** The students should be able to read and understand accounts and balance sheets, they should also have a knowledge of Nigerian Law as applied to business routine. A sound knowledge of financial control of a small business should be acquired.

**Assessment:** Coursework 20% Course tests 20% Practical 0% Examination 60%.

**References:**

1. Wole Adewumi, "Business Management An Introduction", McMillan Nig. Ltd. Lagos. 1988.
2. Soji Olokoyo, "Small Business Management Guide Entrepreneurs", Ola Jamon Printers and Publishers, Kaduna.

# Construction Management

<b>PROGRAMME: CIVIL ENGINEERING TECHNOLOGY</b>			
<b>Course: Construction Management</b>		<b>Course Code: CEC 242</b>	<b>Contact Hours: 2 - 0 - 2</b>
<b>Course Specification:Theoretical Content</b>			
<b>General Objective 1.0: Know the historical development in management.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
1	1.1 Describe the processes of industrial development and revolution. 1.2 Explain the evolution of Management 1.3 Explain the development of the scientific aspects of management. 1.4 State the achievements of the early pioneers in the field of management (Fayol, Taylor).	• Use question and answer techniques • Give assignments	• Chalkboard • Video • OHP
<b>General Objective 2.0: Know the processes involved in the field of management.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
2	2.1 Explain the processes as regards forecasting, prediction planning, organising, preparing, motivating, commanding, controlling, coordinating and communicating.	• Lecture	- do -
<b>General Objective 3.0: Know the structure of a coordinated system of authority.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
3	3.1 Explain the organization charts and span of control. 3.2 Explain the structure and the parts of a division of an undertaking.	- do -	- do -
<b>General Objective 4.0: Know the relationship between authority responsibility and accountability.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
4	4.1 Explain the relationship between authority, responsibility and accountability.		

<b>PROGRAMME: CIVIL ENGINEERING TECHNOLOGY</b>			
<b>Course: Construction Management</b>		<b>Course Code: CEC 242</b>	<b>Contact Hours: 2 - 0 - 2</b>
<b>Course Specification:Theoretical Content</b>			
<b>General Objective 5.0: Know the different parties to a contract, forms of contract and contract procedures.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
5	5.1 Name the parties to a contract: Client, Architect, Engineer, Quantity Surveyor and Contractor (Prime). 5.2 Name the types of contract agreements, lump-sum, unit price, cost plus fee etc. 5.3 Explain the uses of contract documents	- do -	- do -
<b>General Objective 6.0: Know the concept of sub-contracting and the role of sub-contractors.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
6	6.1 Explain the processes involved in sub-contracting. 6.2 Explain the processes involved in selecting sub-contractors 6.3 Explain the works that can be subcontracted and the duties of a sub-contractor. 6.4 Explain the relationship between the prime and the duties of a sub-contractor.	- do -	- do -
<b>General Objective 7.0: Know the techniques of contract planning.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
7	7.1 Explain the principles of contract planning. 7.2 Explain the methods of programming work by using charts (programme and progress). 7.3 Explain the use of site meetings.	- do -	- do -

<b>PROGRAMME: CIVIL ENGINEERING TECHNOLOGY</b>			
<b>Course: Construction Management</b>		<b>Course Code: CEC 242</b>	<b>Contact Hours: 2 - 0 - 2</b>
<b>Course Specification:Theoretical Content</b>			
<b>General Objective 8.0: Know the importance of site layout.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
8	8.1 Draw a site layout plan. 8.2 Explain how the various accesses are suitable for the movement of men and materials on the site.	- do -	- do -
<b>General Objective 9.0: Know the need for quality control on site.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
9	9.1 Explain how quality control is applied to concrete, timber, reinforcement, erection and setting out during construction.	- do -	- do -
<b>General Objective 10.0: Know how resources for a project are obtained and allocated.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
10	10.1 Explain how skilled workers are recruited. 10.2 Describe how material (equipment and consumables) are procured. 10.3 Explain the need for a balanced crew (of skilled workmen) for a work element (e.g concreting). 10.4 Explain the factors to be considered in drawing up a list of equipment to be ordered for the works. 10.5 Explain the need for proper equipment handling and maintenance.	- do -	• Video, TV, Tapes.
<b>General Objective 11.0: Know how resources are used for production.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
11	11.1 Explain different kinds of production. Job production, Batch production and mass production. 11.2 Explain the need for proper storage of materials on site.	- do -	- do -

<b>PROGRAMME: CIVIL ENGINEERING TECHNOLOGY</b>			
<b>Course: Construction Management</b>		<b>Course Code: CEC 242</b>	<b>Contact Hours: 2 - 0 - 2</b>
<b>Course Specification: Theoretical Content</b>			
<b>General Objective 12.0: Know the need for safety on construction site.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
12	12.1 Explain the concept of safety on a construction site. 12.2 Explain how safety will reduce costs of construction. 12.3 Explain the need of keeping accident records on construction. 12.4 Explain the need for a safety programme on construction site. 12.5 State the role of management in a safety programme.	- do -	- do -
<b>General Objective: 13.0 Know the duties of a supervisor</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
13	13.1 Explain the general duties of a supervisor. a. Towards junior worker, Towards employer, Towards visiting consultants. 13.2 Explain the advantages of a good supervisor. 13.3 Explain the disadvantages of a poor supervisor	- do -	- do -
<b>General Objective: 14.0 Know the elementary principles of accounting.</b>			
<b>WEEK</b>	<b>Specific Learning Outcomes</b>	<b>Teachers Activities</b>	<b>Resources</b>
14 - 15	14.1 Name the methods of transaction, debts, credit, double entry. 14.2 Explain the ledger, chart of accounts, trial balance and journal. 14.3 Explain financial statement and balance sheet. 14.4 Explain methods of calculating depreciation of equipment and other assets. 14.5 Draw up a ledger and prepare a balance sheet from given data.	- do -	Financial data.

**PROGRAMME: CIVIL ENGINEERING TECHNOLOGY**

**Course: Construction Management**

**Course Code: CEC 242**

**Contact Hours: 2 - 0 - 2**

**Course Specification: Theoretical Content**

**Revision:** 2 weeks

**Competency:** This course is design to acquaint the students to basic knowledge of construction management from planning to human relations, work ethics, quality control, safety and the supervisory role of the engineer on the field.

**Assessment:** Coursework 20%; Course test 20%; Practical 20%; Examination 60%.

**Reference:**

1. Harris and McCaffer, "Modern Construction Management" Blackwell Science, 1995.
2. Ivor H. Seelay, "Civil Engineering Contract Administration and Control", McMillan Education Ltd. London.