THE REPUBLIC OF CAMEROON MINISTRY OF HIGHER EDUCATION

HND PROGRAM

Field : COMPUTER ENGINEERING

Specialty :

E-Commerce and Digital Marketing

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Option	E-commerce and Digital Marketing

1. The objective of the training

An HND in Digital marketing will provide you with a strong foundation in the core concepts of digital marketing. It will give you an in-depth understanding of how to effectively strategize and implement powerful digital marketing campaigns that convert. From social media marketing to search marketing, you'll learn everything you need to excel at your digital marketing career.

2. Expected skills

→ **General skills**

- Work in autonomy, work together as a team;
- Analyze, synthesize, a professional document (French, English);
- communicate to the oral, written, in business or outside (French, English);
- Participate in /conduct an approach to the management of the project;
- Know and exploit the professional networks and institutional sectors of the informatics.

→ **Specific skills**

- Continuously exploit available commercial information to monitor and develop the activity of the business unit in line;
- Ensure constantly to adapt the offer e-commercial in function of the evolution of the market;
- Ensure the operating balance and the management of the human resources of the unit e-business;
- Carry out actions to attract, accommodate and build customer loyalty by selling him the products and/or services to meet its expectations;
- Develop a commercial offer adapted to the clientele.

3. Career opportunities

- Content Marketer, Digital Designer, Online Campaign Manager, Social Media Marketer, Email Marketer, etc.;
- Inbound Marketer, Social Media Marketer, Digital PR Executive, etc.
- Analytics Specialist, Acquisition Specialist, PPC Analyst, CRM Data

Analyst,
Email Marketer, etc.
- Digital Strategy Planner, Digital Marketing Manager, SEO Strategist, etc.

4. Organization of teachings

- **FIRST SEMESTER**

Field: Computer Engineering		Specialty: E-Commerce and Digital Marketing					
Course Code	Course titles	Number of hours					Number Of Credits
		L	T	P	SPW	Total	
Fundamental Courses 30% (2 UC) 9 credits 135 hours							
EDM111	Mathematics for computing I	45	25	0	5	75	5
EDM112	Basic Environment I	15	10	30	5	60	4
Professional courses 60% (4 UC) 18 credits 270 hours							
EDM113	Database and SQL language	30	15	10	5	60	4
EDM114	System analysis and design	30	30	10	5	75	5
EDM115	Introduction to Web Programming	20	20	30	5	75	5
EDM116	Small business management	20	10	25	5	60	4
Transversal Courses 10% (1 UC) 3 credits 45 hours							
EDM117	English and general accounting	30	10	0	5	45	3
Total		**190**	**120**	**105**	**35**	**450**	**30**

- **SECOND SEMESTER**

Field: Computer Engineering		Specialty: E-Commerce and Digital Marketing					
Course Code	Course titles	Number of hours					Number Of Credits
		L	T	P	SPW	Total	
Fundamental Courses 30% (2 UC) 9 credits 135 hours							
EDM121	Mathematics for computing II	35	20	15	5	75	5
EDM122	Basic Environment II	20	15	20	5	60	4
Professional courses 60% (4 UC) 18 credits 270 hours							
EDM123	Object oriented programming	30	15	40	5	90	6
EDM124	Digital Economy	30	15	10	5	60	4
EDM125	Legal regulations	30	25	0	5	60	4
EDM126	Strategic management	35	20	0	5	60	4
Transversal Courses 10% (1 UC) 3 credits 45 hours							
EDM127	Economics and Enterprise Organisation (EEO) and French	30	10	0	5	45	3
Total		**210**	**120**	**85**	**35**	**450**	**30**

- **THIRD SEMESTER**

Field: Computer Engineering		Specialty: E-Commerce and Digital Marketing					
Course Code	Course titles	Number of hours					Number Of Credits
		L	T	P	SPW	Total	
Fundamental Courses 30% (2 UC) 9 credits 135 hours							
EDM231	Mathematics for computing III	45	25	0	5	75	5
EDM232	Applied Mathematics and quantitative finance	20	20	15	5	60	4
Professional courses 60% (4 UC) 18 credits 270 hours							
EDM233	E – Commerce technology I	20	10	25	5	60	4
EDM234	E – Commerce	40	20	10	5	75	5
EDM235	Digital Marketing I	40	20	10	5	75	5
EDM236	ERP Technologies	20	20	15	5	60	4
Transversal Courses 10% (1 UC) 3 credits 45 hours							
EDM237	Enterprise creation and civics and moral education	30	10	0	5	45	3
Total		**215**	**125**	**75**	**35**	**450**	**30**

- **FOURTH SEMESTER**

Field: Computer Engineering		Specialty: E-Commerce and Digital Marketing					
Course Code	Course titles	Number of hours					Number Of Credits
		L	T	P	SPW	Total	
Fundamental Courses 30% (2 UC) 9 credits 135 hours							
EDM241	Technical Communication	30	15	10	5	60	4
EDM242	Introduction to Computer Application	20	20	30	5	75	5
Professional courses 60% (4 UC) 18 credits 270 hours							
EDM243	E – Commerce technology II	40	20	10	5	75	3
EDM244	Technological infrastructure for e-commerce	30	15	15	0	60	4
EDM245	Digital Marketing II	10	10	20	5	75	5
EDM246	Professional Internship	0	0	60	30	90	6
Transversal Courses 10% (1 UC) 3 credits 45 hours							
EDM247	General economics	30	10	0	5	45	3
Total		**160**	**90**	**145**	**55**	**450**	**30**

SPW: Students' Personal Work

5. Courses content

❖ EDM 111 : Mathematics for computing I

- **Mathematical analysis: 3 credits (45 hours); L, T, SPW**
- **Fundamental algorithmic: 2 credits (30 hours); L, T, SPW**

❖ EDM 112 : Basic environment I

- **Computer fundamentals: 2 credits (30 hours); L, T, P, SPW**

1. Hardware
2. Networks and mobile devices
3. Software
4. Operating system
5. File management
6. Security and maintenance
7. Cloud computing

- **Key applications: 2 credits (30 hours); L, T, P, SPW**

1. Apps and Applications
2. Using Microsoft Word
3. Using Microsoft Excel
4. Database Concepts
5. Using Microsoft PowerPoint

❖ EDM 113 : Database and SQL language

- **Database and SQL: 2 credits (30 hours); L, T, P, SPW**

1. Relational database conception principles

- Functional dependence
- Algorithms and normalization
- Normal forms
- Integrity constraints (static, dynamic, etc.)

2. SQL language

3. Database administration

- Physical implementation of the data
- Structure of the file and index
- Control of concurrent access
- Breakdown resistance
- Security and protection of data
- Parameter setting, start, stop, save, restoration
- Distributed database, distributed processing
- Auditing, optimization

- **Advanced data structure : 2 credits (30 hours); L, T, P, SPW**

1. Function and procedures
2. Notion on recursiveness
3. Search techniques (sequential, sequential with guard, dichotomy)

4. Sorting techniques (insertion, selection, bubbles)
5. Practical on one of the programming languages(C, C++)

❖ EDM 114 : System analysis and design

➢ Introduction to information systems: 5 credits (75 hours); L, T, SPW

1. Specification languages of an information system.

- Data models (Entity relational models, relational models)
- Processing models (petri diagram, MERISE diagram, SADT diagram)
- Communication models
- Objects models

2. Analysis of the is – the system and opportunities offered

- Methods of studying an existing information system
- Data representation and processing of an existing information system

in terms of the models studied above.

- Quality criteria of an information system
- Criticizing the is – the system
- Study of the opportunities
- Audit

3. Design

- Data conceptual diagrams

– Construction of data conceptual diagram
– Normalization

- Processing conceptual diagram

– Processing architectural diagram
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- Dynamic representation
- Conceptual diagram of a communication system
- Representing a communication system
- Determination of the elements of a communication system
- Object conceptual diagram

➢ Introduction to software engineering: 2 credits (30 hours); L, T, P

1. Software development life cycle (SDLC)
2. Quality
3. Specifications
4. Ergonomics
5. Tests
6. Management of requirements
7. Control of development
8. Writing of specifications
9. Methods of estimating the cost

❖ EDM 115 : Introduction to web programming

➢ Introduction to Web programming: 5 credits (75 hours); L, T, P, SPW

1. The WWW fundamentals

2. The architecture and anatomy of the web
3. URI, URN, URL and the browser.
4. Client and Server side programming languages ((HTML, CSS, JavaScript), (PHP, Perl, Python, Ruby)
5. Coding a web page content with HTML.
6. Code reusability and presentation with CSS
7. Miniprojects (Login forms, Registration forms, landing page etc.)
8. Proxy caching and its advantages

9. Introduction to JavaScript for object behavior

❖ EDM 116 : Small Business Management

➢ Small business management: 4 credits (60 hours); L, T, P, SPW

1. Range and scope of a small business (importance and problems associated with small business operations).
2. Types of small scale business (advantages and disadvantages of self-employment)
3. Starting problems and signs of failure of a small business
4. Types of business organization. (Legal form of business)
5. Government policies for small enterprises development. (Effects of government policies on direct and indirect assistance to small businesses)
6. Business plan (purpose of business plan, components of a business plan from project development up to project cost.)
7. Necessary steps in carrying out financial analysis and planning for a small business (personal goal and business goals, influences of family goals in business goals).
8. Basic concept of marketing (steps in conducting market surveys to determine demand and supply for particular products).
9. Distribution channels for a selected product or service.
10. The basic concepts of production

❖ EDM 117 : English and General Accounting

➢ English: 2 credits (30 hours); L, T

1. Vocabulary

- Technical and usual vocabulary of the specialty

2. Grammar

3. Bilingual expression

- Understanding in interaction in Technical Discussions
- Continuous oral communication: Show, explain, develop, summarize, account, comment;
- Interactions oral communication
- Haw to introduce oneself

4. Autonomous reading of "writings" of all levels

- Lead by a quick reading to understand the general sense;
- Browse a text long enough to locate desired information;
- Gather information from different parts of the document or of the different documents in order to accomplish a specific task.

5. Write clear, detailed texts

- Essay writing;
- Application for employment;
- C.V.;
- Letter of motivation;
- Letter / memo writing and minutes of a meeting

➢ **General Accounting: 1 credit (15 hours); L, T**

1. Heritage
2. Influx at an enterprise and its registration
3. Balance sheet and results
4. Accounting law and accounting plan
5. Buying and selling
6. Expenses and products
7. Incidental expenses on buying and selling
8. Packing supplies
9. Transport
10. Classical accounting system
11. Balancing of accounts
12. Cash regulations
13. Terms regulation
14. Depreciations
15. Provisions

❖ **EDM 121 : Mathematics for computing II**

➢ **Advanced algorithmic 1: 3 credits (45 hours); L, T, SPW**

➢ **Statistics and Probability 1: 2 credits (30 hours); L, T, SPW**

❖ **EDM 122 : Basic environment II**

➢ **Living Online: 4 credits (60 hours); L, T, P, SPW**

1. Understanding the Internet
2. Managing Media Literacy
3. Digital Communication
4. Understanding Email, contacts and calendaring
5. Social Media and Digital Identity

❖ **EDM 123 : Object oriented programming**

➢ **Object oriented programming: 6 credits (90 hours); L, T, P, SPW**

1. Introduction and First Program
2. Language Features (How C++ differs from C, Variables Declaration,

Function overloading, Basics of Console Input and Output, Dynamic Memory Allocation)
3. OOPs Concepts (Overview of OOPs Principles, Introduction to classes & objects, Member Functions, this Pointer, Constructor &Destructor)
4. Inheritance (Introduction and benefits, Types of Inheritance, Function overriding, Destructor overriding)
5. Polymorphism (What is Polymorphism, Pure virtual functions, Virtual Base Class)
6. I/O Streams (C++ Class Hierarchy, File Stream, Text File Handling, Overloading << and >> operators)
7. Exception Handling
8. Templates

❖ EDM 124 : Digital Economy

➢ Digital Economy: 4 credits (60 hours); L, T, P, SPW

1. Transformation of the real economy into digital economy. Role of technology revolution in the world economy.

2. Digital innovation and its impact on economic growth. Concept of the "Fourth Industrial Revolution".

3. Digital economy's ecosystem:

- infrastructure,
- IT skills and growing digital population,
- online platforms.
- Internet of Things
- Cloud computing
- E – commerce
- E – finance
- Data protection
- Cyber security

4. Review of regression analysis. Machine learning. AI (Artificial Intelligence)

5. Distributed ledger technology. Block chain's disruptive potential.

6. Firms in the digital Economy:

- digital business models, increasing pressure to innovate,
- large internet companies and OTT (over the top) services.
- cross-border trade barriers.

7. Households in the digital economy:

- individualization of products and services,
- changing structure of consumption,

- potential for economic participation.

8. States in the digital economy

- e-government, e-public service,
- digital enabling,
- Evolving governance frameworks relevant to the digital economy.

9. Global technology frontiers and laggards; Comparative global overview of the advancement in innovation in the digital economy.

10. Digital economy's social impact. The digital divide.

11. Key factors of globalization and economic growth in the digital age

❖ EDM 125 : Legal regulation

➢ Legal Regulations: 3 credits (45 hours); L, T, SPW

1. Copyright protection for computer programs and databases
2. Intellectual property issues on the Internet;
3. Data privacy;
4. Computer-related crimes.
5. General Data Protection Regulations (GDPR)

❖ EDM 126 : Strategic management

➢ Strategic management: 4 credits (60 hours); L, T, P, SPW

1. Understand the strategic decisions that organizations make and have an ability to engage in strategic planning.
2. Explain the basic concepts, principles and practices associated with strategy formulation and implementation.
3. Integrate and apply knowledge gained in basic courses to the formulation and implementation of strategy from holistic and multi-functional perspectives.
4. Analyze and evaluate critically real life company situations and develop creative solutions, using a strategic management perspective.
5. Conduct and present a credible business analysis in a team setting.
6. Understand the crucially important role that the HRM function plays in the setting and implementation of an organization's strategy

❖ EDM 127 : Economics and Enterprise Organization (EEO) and French

➢ Economics and Enterprise Organization (EEO): 2 credits (30 hours); L, T, P

1. Enterprise and typology of enterprises

- Definition of an enterprise
- Analysis mode
- Enterprise as a production unit
- Enterprise as a distribution unit

- Enterprise as a social center
- Classification of enterprise based on the following economics criteria

– According to economic activities
– According to dimension
– According to judicial criteria

2. Organizational structure of an enterprise

- Distribution of tasks and power hierarchy

– Distribution of tasks
o Organizational structure
o Departmental structure
o Site location
o Practical structure
– Power hierarchy
o Functional hierarchy
o Staff and line hierarchy

- Coordination and relationships in the enterprise

– Coordination of tasks in the enterprise
– Relationships in the enterprise

3. Insertion of the enterprise into the economic web

- Basic notions on the enterprise environment
- Inter – enterprise relationship

– Competing relationship
– Complementary relationship

- Relationship between the enterprise and other aspects of the environment.

4. Income earning activities

- Commercial policies (the 4p)

– Policy of the products
– Price policy
– Distribution policy
– Communication policy

- Production and processing policies

– Production policy:
o Production on command
o Production in series
o Continuous production
– Processing policy
o Studies and research office
o Methods office
o Office of scheduling and launching
– Various production methods(influence of technology on production)

- Mechanization, automation and computer assisted production (CAP)
- Quality policies (Production control)
- At the level of production factors
- At the level of work advancement
- At the level of quality
- Work organization and evolution
- Taylorization
- Fordism
- The actual form of a work organization
- Robotization, enrichment,

5. Know how to undertake

- Steps of the creator
- Steps of the decision maker
- Steps of the manager

6. Information system and decision system

- Importance of information and communication to an enterprise
- Organization of an information system:
  - Data bank
  - Database
  - Communication networks
- contribution of information as regards information system
- Decision processing
- Types of decision
- Tools that helps in decision-making
  - Decision in unquestionable future
  - Decision in questionable future
- Capacities and participation in the company
  - Delegation of authority
  - Decentralization of decision making

➢ **French : 1 credit (15 hour) ; L, T**

1. Etude des situations de communication

- Identification des facteurs de la situation de communication (émetteur, récepteur, code, canal, message, contexte) ;
- Situation de communication et interactions verbales ;
- Etude des éléments para verbaux (kinésique, proxémiques, mimogestuels, etc.) ;
- Identification et manipulation des figures d'expression et de pensée (métaphores, ironie, satire, parodie, etc.).

2. Typologie des textes et recherche documentaire

- Lecture des textes de natures diverses (littéraires/non littéraires, image fixe/image mobile, dessin de presse, caricature, etc.) ;
- Analyse des textes publicitaires et des discours (scientifiques, politiques,

littéraires, etc.) ;

- Constitution et exploitation d'une documentation et montage des dossiers ;
- Lecture des textes cultivant les valeurs morales et civiques.

3. Communication orale

- Réalisation d'un exposé ;
- Réalisation d'une interview ;
- Réponse à une interview ;
- Présentation d'un compte-rendu oral ;
- Résumé de texte ;
- Réalisation d'un jeu de rôles ou d'une simulation ;
- Initiation au leadership et à la dynamique des groupes ;
- Ecoute et lecture attentive de documents sonores et/ou graphiques ;
- Lecture méthodique à l'oral

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❖ EDM 231 : Mathematics for computing III

- **Advanced algorithmic 2 : 3 credits (45 hours); L, T, SPW**
- **Statistics and Probability 2 : 2 credits (30 hours); L, T, SPW**

❖ EDM 232 : Applied Mathematics and quantitative finance

- **Financial analysis: 2 credits (30 hours); L, T, SPW**
- **Linear Algebra for economist: 2 credits (30 hours); L, T, SPW**

❖ EDM 233 : E-commerce Technology I

- **E – commerce technology I: 4 credits (60 hours); L, T, P, SPW**

1. An introduction to Electronic commerce
2. The Internet and WWW
3. Building Own Website
4. Internet Security
5. Internet and Extranet

❖ EDM 234 : E-commerce

- **E – commerce: 4 credits (60 hours); L, T, P, SPW**

1. Introduction to Internet Business
2. Infrastructure: The Internet and Technology
3. Business Models for Internet Business
4. Internet Business & Marketing:
5. Basic Marketing Concepts & Technology
6. B2C and B2B Marketing and Branding Strategies
7. E-Commerce Advertising
8. E-Commerce Retailing & Services
9. Online Media: Publishing & Entertainment Industry

10. Social Networking, Communities, & Actions
11. E-Commerce & Ethics

❖ EDM 235 : Digital Marketing I

➢ Digital marketing 1: 4 credits (60 hours); L, T, P, SPW

1. Digital Marketing Foundations
2. Website Optimization
3. Content Marketing
4. Organic social Media
5. Paid Social Media

❖ EDM 236 : ERP Technologies

➢ ERP Technologies: 4 credits (60 hours); L, T, P, SPW

1. Overview of ERP philosophy
2. Structure of ERP systems
3. Integration of business applications - Analysis of business processes
4. ERP II
5. SAP ERP
6. Organizational structures and business processes
7. Life Cycle of ERP systems
8. Implementation of ERP projects
9. ECP diagrams
10. Processing of integrated processes with SAP ERP
11. Case studies

❖ EDM 237 : Enterprise creation and Civics & Moral Education

➢ Enterprise creation: 2 credits (30 hours); L, T, SPW

1. Characteristics of the entrepreneur
2. Opportunity recognition
3. Starting a business
4. Business operation

➢ Civics and Moral education: 1 credit (15 hours); L, T, SPW

1. The citizen
2. The nation
3. The state
4. Public goods – collective goods
5. Freedoms
6. Public services
7. Ethical problems
8. Ethics, rights and privileges
9. Management and ethics of the responsibility
10. Ethics and management

❖ EDM 241 : Technical Communication

➢ Technical Communication: 4 credits (60 hours); L, T, SPW

1. Project Planning
2. Project Analysis
3. Content Development
4. Organizational Design
5. Written Communication
6. Review and Editing
7. Visual Communication
8. Content Management
9. Production and Delivery

❖ EDM 242 : Introduction to computer animation

➢ Introduction to computer animation: 3 credits (45 hours); L, T, P, SPW

1. Toonboom

Adobe Animate

➢ Introduction to Photoshop: 2 credits (30 hours); L, T, P, SPW

1. Introduction to digital photography and digital images
2. Planning and Communications
3. Image Editing
4. Illustration
5. Publishing

❖ EDM 243 : E-Commerce Technology II

➢ E – commerce technology II: 4 credits (60 hours); L, T, P, SPW

1. Electronic Data Exchange
2. Electronic Payment System
3. Planning for Electronic Commerce
4. Internet Marketing

❖ EDM 244 : Technological infrastructure for E-commerce

➢ Technological infrastructure for E – commerce: 4 credits (60 hours); L, T, P, SPW

❖ EDM 245 : Digital Marketing II

➢ Digital Marketing II: 5 credits (75 hours); L, T, P, SPW

1. SEO
2. Paid Search
3. Display and Video advertising
4. Email Marketing
5. Analytics
6. Digital Strategy

❖ EDM 246 : Internship

➢ Internship: 6 credits (90 hours); L, T, P

Objective:

A comprehensive internship program in which the student spends full four to six weeks in approved engineering establishments (private and public) and industries. The exposure also provide opportunity for students to sharpen their technical writing skills through field reports, keeping log-book and preparation of technical documents under close supervision of professionals and lecturers. During this period the student uses tools and procedures put in place by the enterprise to carry out activities or solve a problem individually or as part of a team. The student is expected to write an academic report of scientific nature. The report should reflect the technological applications in the enterprise, the professional skills acquired and suggestions/proposals for improvement of the activities of the company.

Course Content:

- How to write an industrial attachment report
- How must it be presented?

- Presentation of enterprise and its functioning
- Structure of industrial achievement report (industrial training activities, technological applications in the enterprise, professional skills acquired during industrial attachment, identification of technological problems affecting the productivity of the enterprise, proposed solutions, suggestions if any, references, appendices)
- Report writing format (page setup, character format etc.)
- Defense

❖ EDM 247 : General Economics and Law

➢ Law: 1 credit (15 hours)

Business Law

Labour Law

➢ General Economics: 3 credits (45 hours); L, T, SPW

1. **Introduction**

- Classification of economic actor's
- Economic operators
- Relationship between economic agents: economic Circuits;
- Basic notions on national accounting: aggregates and their circuit; products, revenue, expenses.

2. **Consumption**

- Demographic elements
- The needs, the level of life, way of life.
- Individual consumption and collective consumption
- The demands

3. **Production**

- Production units, the sectors and branch activities
- Production factors and their combinations, offers
- concentration

4. **Growth and development**

- Growth

– Definition and measures
– Growth factors
– Growth and notions on neighbors

- Development

– Definition
– Development criteria

5. **The payment of the international exchanges**

- The exchange
- Formation of exchange rate
- Tests of international monetary organization and its difficulties