

**CURRICULUM AND COURSE
SPECIFICATION FOR THE
VOCATIONAL CERTIFICATE
COURSE IN HERBAL SCIENCE
AND DRUG TECHNOLOGY**

APRIL, 2025



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INTRODUCTION

The revision of Curriculum of Natural Medicine Practitioners was necessitated by the need to improve their knowledge and skills to enhance their performance in Health Care. The review entailed the inclusion of new and important subjects and issues in Complementary and Alternative Health Care Delivery. The new curriculum is also designed to give them a broad knowledge base to function effectively in present day health care delivery setting.

The previous curriculum was developed in 2021 and from that time health care delivery has witnessed many changes and new programmes have been introduced. These changes must be reflected in the training curriculum of upcoming practitioners to benefit their clients.

A team of Educationists with wide knowledge and experience in teaching in our Colleges/Schools of training institutions was inaugurated to produce the initial draft of the reviewed curriculum. Thereafter the documents were widely circulated to stakeholders for after comments were received, another Committee was set up to incorporate suggestions and make additions and subtractions before the final draft was presence of the Nigerian Council for Physicians of Natural Medicine for scrutiny and approval.

The new additions in the curriculum include subjects which were previously not taught and are now considered relevant in the light of emerging health problems.

The programme is based on course units and credit system. It is structure to ensure that students receive adequate training in both theory and practice. Accordingly, the entry behavior and length of the programme has also been reviewed.

It is hoped that with adequate preparation of teachers and continuous improvement in facilities in our training institution, Practitioners with the correct mix of knowledge, skills and character be produced to deliver Health Care Services where our citizen work and live.

DANIEL OMISANDE

REGISTRAR,

21 AUG, 2024.

ADMISSION REQUIREMENTS

PERSONAL QUALIFICATION

- i) Physically and mentally fit.
- ii) Able to communicate and work well with people in different settings
- iii) Able to guide, supervise and give good leadership to his subordinates
- iv) Be willing to live and work in the community
- v) Mature, approachable, friendly and honest
- vi) Able to work independently when necessary and make good judgment.

ENTRY QUALIFICATIONS

- i) Identification proof, passport photograph

DURATION OF COURSE

6 Months

CERTIFICATE AWARDED

Vocational Certificate Course in Herbal Science and Drug Technology

GENERAL INFORMATION

Structure of the Programme:

The Vocational Certificate Course in Herbal Science and Drug Technology is a terminal programme, and is structured to last for 6 months.

Furthermore, for the programme, shall consist of 15 contact weeks of teaching which includes; practical exercises, examinations, quizzes, tests, etc. These weeks shall be followed by another period of Supervised Industrial Experience (SIE) which will also last 15 weeks

Condition for award of Certificate:

Training institutions offering the accredited programmes will award the Vocational Certificate to students who successfully completed each programme after passing the prescribed course work, examinations, project (for diplomates) and the Supervised Clinical Experience (SCE).

The final examination of students shall be at a ratio of 70:30% (i.e. terminal examination shall constitute 70%, while continuous assessment in schools will constitute 30%). Also, projects shall be supervised by the training institutions and moderated by the Council. The students will therefore sit for only one qualifying examination.

The Five (5) Point Grading System shall be adopted be for the Certificate, Diploma and Higher Diploma i.e.

Range of Scores	Letter Grades	Weighting Points
70 – 100%	A	5.00
60 - 69%	B	4.00
50 – 59%	C	3.00
45 – 49%	D	2.00
40 – 44%	E	1.00
Below 40%	F	0.00

CONTINUOUS ASSESSMENT

Continuous Assessment is basic in the overall examinations.

A combination of C.A. scores and end-of-semester examination scores yield the course Grade. The ranges used in the College are 30% for C.A. and 70% for examination. The Council approves the following:

1. Weighting of 30% should be adopted for the continuous assessment and 70% for semester examinations by the College in view of the work input expected from students in the various programmes of study
2. Online studies adopt a different system of assessment. Lecturers are responsible for 50% of total assessment which will be regarded to as 'INTERNALS'. The college administration is responsible for the other 50% and this will be regarded to as 'EXTERNALS'. The EXTERNALS will comprise entirely of the semester examination.
3. Continuous assessment of students should be (by means of formal and informal tests) given a greater weight. Assessment should normally be in workshops, laboratories, studios, field/assignment, etc. as may be applicable to respective disciplines, and
4. For effective implementation of the course credit system and the continuous assessment scheme:
5. Each College should provide essential tools for information storage, retrieval and analysis in the form of microcomputers along with relevant software, word processors. Such computer application can facilitate access to analytical tools which can greatly facilitate the grading processes.
6. The standard of teaching/instruction and quality of examinations should be raised through the institutions of student opinion survey and peer evaluation to assess the quality to teaching in all courses. The lecturers evaluated should be informed about the outcome which should be discussed with them individually as a basis for improvement.

RESIT EXAMINATIONS:

1. Resit examinations are abolished in the College within the same semester
2. Students who repeat courses for any reasons should be credited with the actual marks so earned but previous marks should also be recorded. This is in keeping with the objectives of the course system.
3. Students who repeat courses and hence has to do a resit of examinations will have to pay a fine of N5,000 per course repeated

SEMESTER EXAMINATIONS:

Examinations take place at the end of each semester. Continuous Assessment is 30%, while examination is 70% of the total score for the semester for onsite studies. The online counterpart will comprise of 50% for both C.A and examinations each.

Continuous Assessment shall consist of tests, written assignments, presentations, vivas, reports, practical work and any other means as may be appropriate that will be assigned by the Lecturer in Charge (LIC). To obtain a pass in a course, a student shall have scored a minimum of 40% on the aggregate of continuous assessment and examination. A student must have attained 75% class attendance, paid College approved fees and registered duly.

Students who do not fulfil their INTERNALS/C.A requirements will not be allowed to sit for the EXTERNALS/ Examinations. Online students will write an examination of 100 Multi Choice Questions (MCQs) for each course.

RULES GOVERNING EXAMINATION CONDUCT:

1. Students shall be in the examination room at least thirty minutes before the scheduled time of the examination and shall be seated at the appropriate numbered seat (where applicable).
2. Students may not be admitted into the examination hall thirty minutes after the commencement of the examination.
3. Students shall rid their environment free of all unlawful materials e.g. textbooks, handouts, pieces of paper. Writing on the lockers should be reported before the

commencement of examination to the invigilator.

4. No exchange of question papers, answer sheets and similar materials during an examination.
5. Students shall not come into the examination hall with any unlawful materials e.g. sophisticated calculators/mini computers/handsets etc.
6. Online students will not be permitted under any circumstance to write an EXTERNAL examination outside of permitted window.
7. The Examination administration are required to enter '0 (zero) mark' for any student who submits outside of the examination window. Failure to enforce this means that the official in charge is liable to malpractice charge.

8. No use of prepared answers of any kind or in any form (e.g. question paper, on top of desks, chairs, wall, ceiling, chalkboard, school fees receipt, candidate palms or any part of the body, veils, handkerchiefs, tissue paper etc).
9. Each student must submit his/her answer script at the end of the **TIME- ALLOWED** for the examination.
10. No unruly/rowdy and impolite behaviour or insubordination to invigilator before, during and after the examination e.g. students refusing to carry out lawful instructions such as improper sitting arrangement, noise, etc.
11. Students must hand their scripts to the invigilator when leaving the examination room before the end of the examination.
12. Students shall bring their identity cards, clearance certificates, school fees receipts to the examination hall and display them in a prominent position on their desks and nothing unauthorized should be written on these documents.
13. Attendance sheets shall be signed in by the students at the beginning of the examination and signed out at the end of the examination after the submission of their answer scripts.
14. During an examination, no student shall speak to any other student except such is approved by the invigilator and there shall be no noise, disturbance, peeping or spying.
15. No book, printed paper, written document or unauthorized aid shall be taken into an examination room by any student, except as may be stated in the rubrics of any examination paper.
16. No student shall leave the examination hall without permission and attempts to re-enter the hall to continue with the paper later.
17. No student shall insult or physically assault an invigilator for performing his/her lawful duties.
18. Students are not permitted to leave the examination room during the course of the examination except briefly under the continuous supervision of an invigilator or an escort.
19. Students are not allowed to leave the room during the first thirty minutes of the examination nor during the last thirty minutes.
20. The use of scrap paper is not permitted. All rough work must be done in the answer booklets and crossed neatly or in supplementary loose answer sheets which must be submitted to the invigilator. There shall be no writing of points on the question paper.
21. No student is allowed to be in possession of any handbag, purse, briefcase etc. in the examination room while the examination is in progress.

22. At the beginning of examination each student must write his/her **full name** and **matric number** at the top corner of his/her **Question paper**.
23. Student shall write his/her examination number (not his/her name) distinctly at the top of the cover of every **answer book or separate answer sheets of paper**.
24. No student shall bring child/children into examination hall
25. Breast feeding during the exam is not allowed.
26. At the end of the time allotted, each student shall stop writing when instructed to do so and shall gather his/her scripts together ready for collection by the invigilator.
27. Except for the printed question paper, a student shall not remove from the examination room or mutilate any paper or other materials supplied e.g. answer sheets.
28. No student shall impersonate another student during an examination or student asking a non-bonafide student to impersonate him/her.
29. No student should be involved in examination leakages e.g. scouting, begging or purchase of live question papers or benefit from leakage whether directly or indirectly.
30. No stealing, converting or misappropriating the answer scripts of other students.
29. Recurrent cheating is not allowed.
30. Research report which is an essential report of the final NCE exam should not be a copy work.
31. No extraneous materials should be brought into examination hall.

PENALTIES FOR EXAMINATION MISCONDUCT:

1. Students who came into the examination hall after thirty minutes of the commencement of the examination shall not be allowed to write the examination.
2. Any student who fails to rid his/her environment free of unauthorized materials e.g. textbook, hand-outs, pieces of paper, writing on the lockers and wall etc. shall be asked to repeat the year (level).
3. Any student who exchanges question papers, answer sheets and other related materials during an examination shall repeat the year (level) in the following academic session.

4. Student who brought into the examination hall unlawful materials e.g. sophisticated calculator or minim-computer, handset etc. shall repeat the year.
5. Any student found with prepared answers of any kind or in any form (e.g. on question paper, top of desks, chairs, wall, ceiling, chalkboard, school fees receipt, candidate's palms or any part of the body etc. shall repeat the year.
6. Any student who fails to submit his/her answer script at the end of the time allowed for the examination shall carry over that course.
7. Any unruly/rowdy and impolite behaviour and insubordination to invigilator before, during and after the examination e.g. students refusing to carryout lawful instructions (such as improper sitting arrangement and noise by the student) shall carry over the course. It may also attract repetition.
8. Any student who signs the attendance sheet and fails to hand his/her script to the invigilator when leaving the examination room shall repeat the year.
9. Any student who fails to sign in or sign out the attendance sheet after submission of answer script to the invigilator shall carry over the course.
10. Any student who fails to bring his/her I.D. card, clearance certificate and school fees receipt to each examination and display it in a prominent position on his/her desk shall not be allowed to sit for the examination.
11. During an examination any student who speaks to any other student, makes any noise, disturb, peep or spies etc; shall repeat the year.
12. Any student who brings books, printed paper, written document or unauthorized aid into the examination hall shall repeat the year.
13. Any student who leaves the examination hall without permission and attempts to re-enter the hall shall not be allowed.
14. Any student who insults the invigilator for performing his/her lawful duties shall carry-over the course (it may also attract expulsion).
15. Any student found guilty of assaulting an invigilator shall be expelled.
16. Any student who leaves the examination room without the permission of an invigilator will attract carry-over of the course.
17. Any student who leaves the examination room during the first thirty minutes should be regarded as absent and during the last fifteen minutes shall carry-over the course.
18. Any student who is in possession of handbag, purse, wallets, briefcase etc. while the examination is in progress shall repeat the year.
19. Any student who renders assistance to any other student or accepts assistance from any other student or copy from each other, shall repeat the year.
20. Any student who fails to write his/her examination number distinctly at the top of the corner of every answer booklet shall carry-over the course.

21. Any student who fails to stop writing when instructed to do so shall carry-over the course.
22. Any student who removes any unauthorized paper from the examination room except the printed question paper shall repeat the year e.g. the College answer sheet/booklet.
23. Any student who impersonates another student during an examination or student asking any person to impersonate him/her shall be expelled from the College.
24. Any student found involved in examination leakages, such as scouting, begging or purchase of live question papers or benefit from the leakage whether directly or indirectly shall be expelled from the College.
25. Any student who steals, converts or destroys the answer scripts of other student shall repeat the year.
26. Recurrent cheating: Any student found guilty of cheating for more than one occasion in any of the College examinations, class test, continuous assessment test, assignment etc. shall be dismissed from the College and shall not be re-admitted into the College.
27. Any student who is involved in plagiarism e.g. research project, shall re-write the project in the following academic session.
28. Any student who forges any document, such as the school fees receipt shall be expelled from the College.

SUPERVISED INDUSTRIAL/CLINICAL EXPERIENCE:

1. This will take place between sessions for 15 weeks
2. Clinicals are expected to contribute to a significant aspect of the SIE
3. Students may observe the SCE period in a facility that engages in practice of herbal cultivation, processing, analysis or dispensing
4. Students shall visit at least once a week for every 4 units
5. The facility must be headed by a licensed practitioner
6. If students are unable to find a licensed practitioner or pharmacist, the college shall provide recommendations relevant to the student's location if required
7. Students are not required to visit the facility every day of the week. However are expected to make an appearance at least thrice a week for a minimum of 10 out of 15 weeks
8. The college will provide a letter of reference for the student to present at that proposed center.
9. At the end of the SIE, the students are expected to submit a filled log book and a letter from the center's administration providing a summary of the student's performance during the SCE.

STANDINGS:

1. **Grade Point Average (GPA):** This is the average of weighted grade points earned in the courses taken during the semester. The Grade Point Average is obtained by multiplying the Grade Point attained in each course by the number of credit units assigned in each course by the number of credit units assigned to that course; and then summing these up and dividing by the total number of credit units taken for the semester.

COURSES:

CODE	COURSE	DURATION	UNITS
HSD 101	Herbal Drug Technology	90hrs	6
SCE 101	Supervised Industrial Experience	360hrs	12
	TOTAL	450hrs	18

COURSE TITLE	HERBAL DRUG TECHNOLOGY
COURSRE CODE	HSD 101
DURATION	90 HRS
UNIT	6.0

GOAL: This course is designed to familiarize the students with herbal sciences and herbal drug preparation

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

1. Understand Herbs as Raw Materials
2. Understand Biodynamic Agriculture
3. Understand Nutraceuticals
4. Understand Herb-Drug and Herb-Food Interactions
5. Understand Herbal Cosmetics
6. Understand Herbal Excipients
7. Understand Herbal Formulations
8. Understand Evaluation of Drugs
9. Understand Patenting and Regulatory Requirements of Natural Products
10. Understanding the Herbal Industry

GENERAL OBJECTIVES	PERFORMANCE OBJECTIVES
1.0 Understand Herbs as Raw Materials 2.0 Understand Biodynamic Agriculture 3.0 Understand Nutraceuticals 4.0 Understand Herb-Drug and Herb-Food Interactions	On completion of this course, the student be able to: 1.1 Explain the concept of herb, herbal medicine, herbal medicinal product and herbal drug preparation 1.2 Describe different sources of herbs 1.3 Discuss selection, identification authentication of herbs 1.4 Discuss processing of herbal raw materials 1.5 Differentiate between allopathic and herbal drugs 2.1 Explain the concept of good agriculture practices 2.2 Describe basic principles of organic farming 2.3 Discuss Pest and pest management 2.4 Explain biopesticides and bioinsecticides 3.1 Describe Nutraceuticals 3.2 Explain growth, scope, market scenario, products available in the market 3.3 Explain the health benefits and role of nutraceuticals in various diseases 3.4 Discuss in detail; herbs used as nutraceuticals 4.1 Define Herb-Drug and Herb-Food interactions 4.2 Explain classifications and types of Herb-Drug and Herb-Food interactions 4.3 Explain the mechanisms and effects of interactions 4.4 Discuss the different drugs and their possible side effects and interactions

5.0 Understand Herbal Cosmetics	5.1 Define Herbal Cosmetics 5.2 Describe the advantages and classification of herbal cosmetics 5.3 Describe the raw materials used in skin care products 5.4 Explain the excipients used in hair care products 5.5 List the raw materials used in oral care products
6.0 Understand Herbal Excipients	6.1 Define Natural Excipients 6.2 List the functions of Herbal Excipients 6.3 Explain the classification, advantages and disadvantages 6.4 Describe the significance of natural colourants, sweeteners, flavours and perfumes 6.5 Briefly explain the concept of natural products used as binders, diluents, viscosity builders and disintegrants
7.0 Understand Herbal Formulations	7.1 Explain the concept of conventional and novel dosage forms 7.2 Explain different conventional solid, liquid and semisolid dosage forms 7.3 Describe the advantages, preparations and applications of different types of novel dosage forms
8.0 Understand Evaluation of Drugs	8.1 Describe the WHO and NAFDAC guidelines for the assessment of herbal drugs 8.2 Explain stability testing of herbal drugs 8.3 Describe the different methods for evaluating herbal drugs 8.4 Explain adulteration and explain its detection in herbal drugs
9.0 Understand Patenting and Regulatory Requirements of Natural Products	9.1 Explain the concept of intellectual property right and patent

	9.2 Discuss farmers right, breeders right, related to natural products 9.3 Explain bioprospecting and biopiracy 9.4 Explain different patenting aspects of traditional knowledge and natural products 9.5 Describe the case studies of Neem and Curcuma 9.6 Discuss ethical and legal considerations of herbal drug research and development
10.0 Understanding the Herbal Industry	10.1 Discuss present, scope and future prospects of herbal drug technology 10.2 Describe plant based industries in Nigeria 10.3 Discuss current market trends in herbal drug market

COURSE TITLE: SUPERVISED CLINICAL EXPERIENCE I

COURSE CODE: SCE 101

DURATION: 360 HRS

UNIT: 12.0

GOAL: This course is designed to immerse students in real-world environments where herbal medicine products are cultivated, processed, tested and dispensed. Under the guidance of certified herbal practitioners or technologists, students will engage in observational learning, technical practice and community-based applications that integrate herbal sciences with modern drug development protocols.

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

- 1.0 Identify and collect medicinal plants appropriate for herbal drug preparation.
- 2.0 Apply techniques in herbal cultivation, processing, preservation, and formulation.
- 3.0 Observe and assist in quality assurance protocols for herbal products
- 4.0 Engage in responsible dispensing and documentation practices.
- 5.0 Understand regulatory and ethical issues related to herbal drug production

