



NATIONAL BOARD FOR TECHNICAL EDUCATION
CURRICULUM AND COURSE SPECIFICATIONS
FOR
NATIONAL DIPLOMA AND HIGHER NATIONAL DIPLOMA
IN
MUSIC TECHNOLOGY PROGRAMME
1992
PLOT B, BIDA ROAD P.M.B. 2239 KADUNA.

GENERAL INFORMATION

TITLE OF THE PROGRAMME:

The title of the programme is National Diploma and Higher National Diploma in Music Technology.

NATIONAL DIPLOMA (ND)

GOAL AND OBJECTIVES

The programme for the National diploma in Music technology is designed to produce technicians for the public and private enterprises who should understand the nature and purpose of Musical acoustics and Technology and:

- a) Equip the students with adequate training in musical acoustics and technology of African and Western Instruments.
- b) Prepare and produce diplomats who will be competent to fabricate, repair and maintain musical instruments as well as introducing innovations into Nigerian music industry.
- c) Prepare students for professions in the practice of Music Technology at various levels of education and other avenues of private and public music use, and in entertainment.

1.0 MINIMUM ENTRY REQUIREMENTS

1.1 NATIONAL DIPLOMA PROGRAMME

The general entry requirements for admission into the National Diploma programme in Music Technology shall include:

- a) Either West African School Certificate or Senior Secondary School Certificate (SSCE) with passes at credit level in at least five subjects including English Language. A pass in Mathematics or Physics is required. A pass in Chemistry, Technical Drawing or Woodwork may be an added advantage.
- b) Candidate must take Music at polytechnic JAMB Examinations.

NATIONAL BOARD FOR TECHNICAL EDUCATION

HIGHER NATIONAL DIPLOMA

GOALS AND OBJECTIVES

The programme for the Higher National Diploma in Music Technology is designed to produce middle-level personnel for the public and private sectors who should repair, maintain, fabricate musical instruments as well as master issues and problems related to music and music technology, based on the following objectives:

- a) Prepare music students for a large number of diverse professional opportunities in the field of music in order to encourage self-employment.
- b) Increase course offering in order to cater for a great variety and flexibility in the career interest of students.
- c) Provide a balanced, vigorous perspective on the multi-dimensional character of musical studies, enabling them to master a wide range of topics, issues and problems related to music and musical instruments technology with sophisticated, analytical and critical competence.

1.2 MINIMUM ENTRY REQUIREMENTS

The general entry requirements for the HND programme in Music Technology should include:

- a) All the requirements for admission into the ND programme in Music Technology.
- b) A minimum of lower credit pass (CGPA of 2.50) in Music Technology.
- c) A minimum of one year post-ND cognate work experience.

2.0 CURRICULUM

2.1 The curriculum is structured in four semester of classroom, studio/workshop activities in the institution and 3 to 4 months supervised industrial work experience scheme (SIWES) in a relevant industry or organization. Each semester of institutional based activities shall be for a duration of 17 weeks distributed as follows:

15 contact weeks of teaching; i.e recitation, practical exercises, quizzes, tests, etc. and 2 weeks to be devoted for examination and registration.

2.2 The curriculum of the ND and HND programmes consists of four main components viz:

- i) General Education courses
- ii) Foundation courses
- iii) Professional courses
- iv) Supervised Industrial Work Experience Scheme (SIWES)

2.3 The general education component includes courses in social studies/Art/Humanities, Mathematics/Science and Physical Health Education. English Language/Communication, History and Physical Health Education, Citizenship, Entrepreneurship, Philosophy and Science and Sociology are compulsory course.

The general Education courses shall count for not more than 15% of the total contact hours for the programme.

2.4 Foundation courses include the relevant courses in Economics. Law, etc. The number of hours for the foundation courses shall be between 10-15% of the total contact hours for the programme.

2.5 Professional courses are specialized core courses which give the student the theory and practical skills he needs to practice in his fields of specialization at the technician/technologist level.

Those specialized courses account for between 60-70% of the total contact hours of the programme.

2.6 Supervised Industrial Work Experience Scheme (SIWES)

Tailor-made courses outline shall drawn up by the institution for the placement of students in relevant industry at a convenient period of the programme. See detailed guidelines on SIWES are paragraph 4.0

Final Year Project

Final year students in these programme are expected to carry out a project work. This could be on individual basis or group work. The project should as much as possible be a life project in industry, commerce or organization. It should be presented properly, supervised and bounded.

3.0 Conditions for the Award of the National Diploma and Higher National Diploma. The programme at both ND and HND in Music Technology shall be accredited by the NBTE before the diplomats can be awarded the diploma certificates.

Details about the process of accrediting a programme for the award of the National Diploma or Higher National Diploma are available from the Executive Secretary, National Board for Technical Education, Plot B, Bida Road PMB 2239, Kaduna, Nigeria

3.1 Institutions will award the National Diploma or Higher National Diploma to candidate who successfully completed the programme after passing the prescribed course work, examination, diploma project and the supervised Industrial work experience scheme (SIWES). Such candidates should have completed between 72-80 semester credit units as prescribed in the given programme.

3.2 Diplomates shall be classified as follows:

Distinction	-	GPA of 3.50 and above
Upper Credit	-	GPA of 3.00 – 3.49
Lower Credit	-	GPA of 2.50 – 2.99
Pass	-	GPA of 2.00 – 2.49
Fail	-	GPA of below 2.00

ND I - FIRST SEMESTER

COURSE CODE	COURSE TITLE	L	P	T	CU
GNS 101	Use of English 1	2	-	-	2
GNS 120	Contemporary Social Problems and outline History of Nigeria	2	-	-	2
GNS 124	Introduction to Management	2	-	-	2
GSY 119	Yoruba/French	2	-	-	2
GSR 119	Nigerian Traditional Religion	2	-	-	2
MUT 111	Music as an Art and Science 1	1	2	-	2
MUT 112	Introduction to Musical Instrument Technology 1	1	2	-	2
MUT 113	Technical Drawing (Measurement)	1	2	-	2
MUT 114	Ear Training	-	2	-	2
MUT 115	Applied Music	-	2	2	2
MUT 116	Rudiments of Music 1	1	1	1	2
MUT 117	History and Literature of Nigeria Music 1	-	-	-	2
MUT 118	Musical Engineering 1	1	1	1	2
		15	12	6	26

ND I - SECOND SEMESTER

COURSE CODE	COURSE TITLE	L	P	T	CU
GNS 102	Communication in English	2	-	-	2
GNV 129	Yoruba/French	2	-	-	2
GSR 129	Nigeria Traditional Religion	2	-	-	2

MUT 120	Woodwork Technology	1	2	-	2
MUT 121	Introduction to Musical Accoustics	2	-	-	2
MUT 122	Introduction to Musical Instrument Technology II	1	2	-	2
MUT 123	Technical Drawing	1	2	-	2
MUT 124	Ear Training	-	2	2	2
MUT 125	Applied Music II (Vocal/Instrumental)	-	2	2	2
MUT 126	Rudiments of Music II	2	-	-	2
MUT 127	History and Literature of Nigeria Music II	2	-	-	2
MUT 128	Musical Engineering II	1	2	-	2
		16	12	4	24

ND II - FIRST SEMESTER

COURSE CODE	COURSE TITLE	L	P	T	CU
GNS 201	Use of English II	2	-	-	2
GSR 219	Nigerian Traditional Religion	2	-	-	2
MUT 210	Material Science (Metals and Leather)	1	2	-	2
MUT 211	Musical Instrument Technology I	1	2	-	2
MUT 212	Accoustics of Music I	2	-	-	2
MUT 213	Ear Training	-	4	-	2
MUT 214	Applied Music III (Principal and Subsidiary)	-	2	2	2
MUT 215	Instrumentation	2	-	-	2
MUT 216	Tonal Harmony I	1	2	-	2
MUT 217	History and Literature of African Music	2	-	-	2
MUT 218	Final Year Project	-	-	6	2
		13	12	8	22

ND II - SECOND SEMESTER

COURSE CODE	COURSE TITLE	L	P	T	CU
GNS 202	Communication in English	2	-	-	2
GSY 220	Nigeria Traditional Religion	1	2	-	2
MUT 221	Musical Instrument Technology II	1	2	-	2
MUT 222	Accoustics of Music II	1	2	-	2
MUT 223	Applied Music Technology	-	2	2	2
MUT 224	Applied Music IV	-	2	2	2
MUT 225	Orchestration	2	-	-	2
MUT 226	Total Harmony II	2	-	-	2
MUT 227	Outline History and Literature of Western Music	2	-	-	2
MUT 228	Final Year Project	-	6	-	2
		11	16	4	20

HND I - FIRST SEMESTER

COURSE CODE	COURSE TITLE	L	P	T	CU
GNS 301	Use of English II	2	-	-	2
MUT 311	Accoustics of Music	2	-	-	2
MUT 312	Applied Music Technology I	-	-	-	2
MUT 313	Introduction to Electronics	1	2	-	2
MUT 314	Technical Drawing	1	2	-	2
MUT 315	African Music: Music in Society	2	-	-	2
MUT 316	History to Western Music I	2	-	-	2
MUT 317	Composition (Choral)	1	2	-	2
MUT 318	Advance Applied Music I (Principal/Subsidizing)	-	2	2	2
MUT 319	Music Technology I (African Wind Instrument)	1	2	-	2
GSG 318	Aesthetics	2	-	-	2
		17	17	2	22

HND I - SECOND SEMESTER

COURSE CODE	COURSE TITLE	L	P	T	CU
GNS 302	Communication in English II	2	-	-	2
MUT 320	Music Technology II (Reed Organ)	1	2	-	2
MUT 321	Accoustics of Music II	1	2	-	2
MUT 322	Applied Music Technology II	-	2	2	2
MUT 323	Research Methodology in Music Technology	1	2	-	2

MUT 324	Technical drawing	1	2	-	2
MUT 325	African Music (Theoretical Studies)	1	2	-	2
MUT 326	History of Western Music II	2	-	-	2
MUT 327	Composition (Instrumental)	1	-	2	2
MUT 328	Advanced Applied Music II	-	2	2	2
MUT 329	Music Technology III (African Wind Instrument)	1	2	-	2
GSG 317	Aesthetics	2	-	-	2
		13	14	6	24

HND II - FIRST SEMESTER

COURSE CODE	COURSE TITLE	L	P	T	CU
GNT 419	Technology and Society	2	-	-	2
MUT 410	Electronics	1	2	-	2
MUT 411	Music and the Electronic Media	1	2	-	2
MUT 412	Applied Music Technology III (Common Faults in Piano)	1	2	-	2
MUT 413	Music Technology IV (Fabrication of Membraphone Instruments)	1	2	-	2
MUT 414	Music Technology V (Advance repair and maintenance of Aerophones)	1	2	-	2
MUT 415	Orchestration	2	-	-	2
MUT 416	Composition	1	-	2	2
MUT 417	Project in Music Technology	1	6	-	4
		11	16	2	20

HND II - SECOND SEMESTER

COURSE CODE	COURSE TITLE	L	P	T	CU
GNS 402	Industry Appreciation and Coral Composition	2	-	-	2
GSR 425	African Traditional Religion	2	-	-	2
GST 429	Technology and Society	2	-	-	2
MUT 420	Fabrication of Electronics Instruments	1	2	-	3
MUT 421	Music and the Electronic Media	2	-	-	2
MUT 422	Applied Music Technology IV (Common Faults in Keyboard; Organ)	-	2	2	2
MUT 423	Music Technology VI (Fabrication of Membranophonic Instrument)	1	2	-	2
MUT 424	Music Instrument VII (Advance repair and Maintenance of Aerophonic Instrument)	1	2	-	2
MUT 425	Composition	1	-	2	2
MUT 426	Project in Music Technology	1	6	-	4
		12	16	4	22

PROGRAMME:
COURSE TITLE:
COURSE CODE:
COURSE UNIT:
DURATION:
GOAL:

MUSIC TECHNOLOGY
INTRODUCTION TO MANAGEMENT
MUT 110

3
3 Hours per week

This course is designed to introduce the student to management techniques that will enable him manage an enterprise efficiently and effectively.

GENERAL OBJECTIVE:

On completion of this module, the student should be able to:

1. Know private and state control of enterprises.
2. Understand the method of management.
3. Know the element of marketing.
4. Understand personnel management.
5. Know the Quantitative Management Techniques.
6. Understand maintenance scheduling and replacement strategies.
7. Understand money and financial institutions.
8. Appraise investment Appraisal.
9. Understand the industry and National economy.

GENERAL OBJECTIVE	PERFORMANCE OBJECTIVES
1.0 Know private and state control of	On completion of this module, the students should be able to: <u>PRIVATE AND STATE ENTERPRISES</u>

enterprises.	<p>1.1 Identify types of enterprises: Proprietor, limited liability, public corporation.</p> <p>1.2 Explain the objectives of business organization.</p> <p>1.3 Explain the business environment (i.e political economy).</p> <p>1.4 Examine different private enterprises.</p> <p>1.5 Evaluate the public enterprises.</p> <p>1.6 Assess the private control and its effect on business control.</p> <p>1.7 Analyze the implications of state control of enterprises.</p>
2.0 Understand the methods of Management	<p><u>MANAGEMENT</u></p> <p>6.1 Define Management.</p> <p>6.2 Explain the function of management planning, organization, controlling staff and directing.</p> <p>6.3 Explain the purpose of managing cash, staff, equipments.</p> <p>6.4 Examine the concept of authority and responsibility.</p> <p>6.5 Appraise management objectives.</p> <p>6.6 Analyze the roles of Chief</p>

3.0 Know elements of Marketing	<p>Executive and Board in Policy formulation and implementation.</p> <p>6.7 Explain motivation.</p> <p>6.8 Evaluate Management control.</p> <p>6.9 Examine problems of leadership in organization.</p> <p><u>ELEMENT OF MARKETING</u></p> <p>3.1 Define marketing and market.</p> <p>3.2 State the marketing mix-product, price place, promotion.</p> <p>3.3 Explain product differentiation.</p> <p>3.4 Explain market segmentation.</p> <p>3.5 Differentiate the industrial market from the consumer market.</p> <p>3.6 Define a product.</p> <p>3.7 Identify the stages of the product life cycle.</p> <p>3.8 Describe the different ways a company can develop a new product.</p> <p>3.9 Identify the different channels of product distribution.</p> <p>3.10 Choose the most appropriate channel of distribution of a given product.</p>
4.0 Understand Personnel Management	<p><u>PERSONNEL MANAGEMENT</u></p> <p>4.1 Explain the concept of personnel management.</p> <p>4.2 Define recruitment.</p>

	<p>4.3 Explain the selection and engagement procedures.</p> <p>4.4 Appraise evaluation and merit rating.</p> <p>4.5 Explain the importance of education, training and developments.</p> <p>4.6 Explain the relevance of industrial Training to productivity in an organization.</p> <p>4.7 Examine critically the different types of conditions of service.</p> <p>4.8 Define trade unionism, collective bargaining, joint consultation conciliation, arbitration.</p> <p>4.9 Explain labours share in the organization income.</p> <p><u>QUANTITATIVE MANAGEMENT TECHNIQUES</u></p>
<p>5.0 Know the quantitative Management Techniques</p>	<p>5.1 Identify types of management decisions.</p> <p>5.2 Explain the modern quantitative decisions techniques.</p> <p>5.3 Appraise operation research.</p> <p>5.4 Examine the structure of linear programming problems.</p> <p>5.5 Examine the simple methods of solving linear programming problems.</p> <p><u>MAINTENANCE SCHEDULING</u></p>

<p>6.0 Understand maintenance scheduling and replacement strategies</p>	<p><u>AND REPLACEMENT STRATEGIES</u></p> <p>6.1 Explain purchasing.</p> <p>6.2 Analyze storage and stock ordering.</p> <p>6.3 Calculate the economic order quantity.</p> <p>6.4 State the importance of production in an organization.</p> <p>6.5 Evaluate production planning and control.</p> <p>6.6 Appraise production scheduling.</p> <p>6.7 Explain quality control.</p> <p>6.8 Analyze replacement strategies.</p> <p>6.9 Critical examine maintenance culture in Nigeria.</p>
<p>7.0 Understand money and financial institution</p>	<p>6.10 Estimate depreciation and scrap value.</p> <p><u>MONEY AND FINANCIAL INSTITUTIONS</u></p> <p>7.1 Define money.</p> <p>7.2 Explain the function of money.</p> <p>7.3 Explain the functions of the Central Bank and Commercial Banks.</p> <p>7.4 Explain the functions of other financial Institutions.</p>
<p>8.0 Appraise Investment Appraisal.</p>	<p>7.5 Enumerate the different types of insurance organizations</p> <p><u>INVESTMENT APPRAISAL</u></p>

<p>9.0 Understand the industry and National economy.</p>	<p>8.1 Define investment. 8.2 Explain investment objectives and decisions. 8.3 Examine methods of investment forecast. 8.4 Critically examine the company's finance. 8.5 Analyze types of business costs e.g fixed cost, variable contract costing.</p> <p><u>INDUSTRY AND NATIONAL ECONOMY</u></p> <p>9.1 State the importance of Industry to human development. 9.2 List the factors necessary for the location of an industry. 9.3 Explain the main feature of Nigeria's industrial policy. 9.4 Explain the different types of economy systems. 9.5 State the importance of the national income. 9.6 Examine the national economy.</p>
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PROGRAMME:
 COURSE TITLE:
 COURSE CODE:
 COURSE UNIT:
 DURATION:
 GOAL:

MUSIC TECHNOLOGY
 MUSIC AS AN ART AND SCIENCE I
 MUT 111

3
 3 Hours per week

This course is designed to enable student understand the various musical elements such as rhythm, melody, harmony and tone colour from world musical instruments. Recognize and describe scientific properties of musical sound frequency, intensity, pitch and volume.

GENERAL OBJECTIVE:

On completion of this module, the student should be able to:

1. Know types of rhythm.
2. Understand melody.
3. Understand the various harmonic organizations.
4. Know the orchestral tone colour.
5. Understand the scientific properties of musical sound.

General Objectives	Performance Objectives
1. Know types of rhythm.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Rhythm</u></p> <p>5.1 Recognize free and strict rhythms.</p> <p>5.2 Recognize duple, triple, quadruple and mixed rhythms.</p> <p>5.3 Describe additive, divisive, hamiola, multilinear and polyrhythmic organisations.</p>
2. Understand melody	<p><u>Melody</u></p> <p>2.1 Recognize various melodic organizations associated with Pythagorean and equal</p>

	temperament scales. 2.2 Sing or hum melodic phrases associated with these scales.
3. Understand the various harmonic organizations.	<u>Harmonic Organizations</u> 3.1 Identify monophonic, polyphonic, homophonic clarity and heterophonic musical structures. 3.2 Perform pieces based on monophonic, polyphonic and homophonic structures.
4. Know the orchestral tone colour.	<u>Orchestral Tone</u> 4.1 Identify various tones of orchestral instruments aurally.
5. Understand the scientific properties of musical sound.	<u>Sound</u> 5.1 Define frequency, intensity, pitch and volume of sound. 5.2 Recognize their importance in the production of musical sound.

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: INTRODUCTION TO MUSICAL INSTRUMENTS TECHNOLOGY I
COURSE CODE: MUT 112
COURSE UNIT: 2
DURATION: 3 Hours per week
GOAL: This course is designed to enable student understand the process of constructing some traditional musical instruments.
GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Understand the classification of musical instruments.
2. Know the acoustic phenomenon inherent in the construction of instruments.

General Objectives	Performance Objectives
Understand the classification of musical instrument.	On completion of this module, the trainee should be able to: <u>Classification of Musical Instruments</u> 1.1 Identify the names of instruments. 1.2 Identify the class of instruments such as wind, strings and percussion etc.
Know the acoustic phenomenon inherent in the construction of instruments.	<u>Construction of Musical Instruments</u> 2.1 Survey the historical processes of instrument making. 2.2 Explain the principles of constructing musical instruments. 2.3 Describe the techniques of constructing local wind instruments.

	<p>2.4 List the tools used in constructing any of the instruments in 2.2 and 2.3 above.</p> <p>2.5 Identify the function of each tool.</p>
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: TECHNICAL DRAWING
 COURSE CODE: MUT 113
 COURSE UNIT: 2
 DURATION: 3 Hours per week
 GOAL: This course is designed to enable student use the drawing set in drawing geometrical construction.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:
 1. Know how to draw lines.
 2. Understand lettering.
 3. Know geometrical construction.
 3. Know tangents' construction.

General Objectives	Performance Objectives
Know how to draw lines.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Lines</u></p> <p>1.1 Draw continuous thick lines, continuous thin lines, short thin dashes, and long thick chain lines.</p> <p>1.2 Draw long chain lines, short thin lines, continuous thick wavy lines, zig-zag lines and arrow head of various thicknesses.</p>
Understand lettering.	<p><u>Lettering</u></p> <p>2.1 Construct letterings of alphabets and numbers in sizes with and without guide lines.</p> <p><u>Geometrical Construction</u></p>

Know geometrical construction.	<p>3.1 Construct angles, triangles and quadrilaterals.</p> <p>3.2 Construct polygons of more than 4 sides.</p> <p>3.3 Construct circles inside and outside polygons.</p> <p><u>Targents construction</u></p>
Know targents' construction	<p>4.1 Draw targents to area and circles.</p> <p>4.2 Join area externally and internally.</p>

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: EAR TRAINING
 COURSE CODE: MUT 114
 COURSE UNIT: 2
 DURATION: 4 Hours per week
 GOAL: This course is designed to enable student respond to aural test by recognizing and describing intervals, melodies, two part phrases, cedences and beat rate. Identify and describe simple themes from Western and African works through listening.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:
 1. Understand intervals.
 2. Understand triads and their inversions.

General Objectives	Performance Objectives
Understand intervals.	On completion of this module, the trainee should be able to: <u>Intervals</u> 1.1 Recognize perfect interval. 1.2 Recognize major, minor, diminished and augmented intervals. 1.3 Sing or hum the upper or lower note of the interval played. 1.4 Write intervals as played. 1.5 Write the ratio of the intervals.
Understand triads and their inversion.	<u>Triads</u> 2.1 recognize whether the triad is in roat or inverted. 2.2 Describe the triad as major, minor, augmented and diminished. 2.3 Sing or hum the top, middle or

	lowest note. 2.4 Write the triads down as played.
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PROGRAMME:

COURSE TITLE:

COURSE CODE:

COURSE UNIT:

DURATION:

GOAL:

MUSIC TECHNOLOGY

APPLIED MUSIC I (PRINCIPAL AND SUBSIDIARY)

MUT 115

2

4 Hours per week

This course is designed to enable student develop skills in technical studies, perform their set pieces as well as develop sight reading skills in at least two musical instruments, one of which must be the piano.

GENERAL OBJECTIVE:

On completion of this module, the student should be able to:

1. Know keyboard concepts and skills.
2. Understand the technical knowledge of scales and arpeggios in major/minor keys.
3. Understand set pieces in major and minor keys.
4. Know the purpose and usage of voices and the role of a singer.
5. Know the functions and purposes of technical voice exercise (VOCALISES) as laid out in GRADED SET PIECES.
6. Know the skills and historic presentation of singing.
7. Know the principles of choral studies and performance techniques.
8. Understand breath control.
9. Know parts of musical instruments.
10. Understand correct tongueing; "single tongueing".
11. Know the phrasing of melodies.

General Objectives	Performance Objectives
	On completion of this module, the trainee should be able to: <u>Keyboard</u>

1.0 Know keyboard concepts and skills.	<p>1.1 Finger fluently.</p> <p>1.2 Play notes with speed and steadiness.</p> <p>1.3 Sight read notes in succession.</p> <p>1.4 Acquire varieties of touch-legato, staccato, marcato, tenuto, etc.</p> <p><u>Scales and Arpeggies</u></p> <p>2.1 Change finger positions, extensions, contraction, turning and crossing of fingers.</p> <p>2.2 Recognize types of notions (contrary and similar) ascending and descending.</p> <p><u>Set pieces</u></p> <p>3.1 Explain the historical background of set pieces.</p> <p>3.2 Recognize form and texture.</p> <p>3.3 Explain performance style and techniques.</p> <p>3.4 Play and interpret dynamics.</p> <p><u>Voices</u></p> <p>4.1 Explain the principles involved in voice production and management.</p> <p>4.2 Explain different organs of voice production, foundation structure and decoration through various factors.</p> <p><u>Vocalises</u></p>
2.0 Understand the technical knowledge of scales and arpeggios in major/minor keys.	
3.0 Understanding set pieces in major and minor keys.	
4.0 Know the purpose and usage of voice training and the role of a singer.	

<p>5.0 The functions and purpose of technical voice exercise (VOCALISES) as laid out in GRADED PIECES.</p> <p>6.0 Know the skills and the historic presentation of singing.</p> <p>7.0 Know the principles of choral studies and performance techniques.</p> <p>8.0 Understand breath control.</p> <p>9.0 Know parts of musical instruments.</p> <p>10.0 Understand correct tongueing; single tongueing.</p> <p>11.0 Know the phrasing of melodies.</p>	<p>5.1 Supervise, demonstrate and expose self to correct application of VOCALISES.</p> <p><u>Singing</u></p> <p>6.1 Interpret signs and symbols in music.</p> <p>6.2 Sight read songs in diatonic scales system.</p> <p>6.3 Perform simple choral pieces by various composers.</p> <p><u>Choral Performance</u></p> <p>7.1 Acquire ensemble voice training for choral performance in groups.</p> <p><u>Breath control</u></p> <p>8.1 Demonstrate the correct beat control by sustaining notes to first 4 counts, 8,12 and later to notes of longer duration.</p> <p><u>Musical Instruments</u></p> <p>9.1 Learn parts of the musical instruments.</p> <p>9.2 Draw and label the parts.</p> <p>9.3 Note the functions of the parts.</p> <p><u>Tongueing</u></p> <p>10.0 Demonstrate tongueing on notes of the melodies.</p> <p><u>Melodies</u></p> <p>11.1 Play scales (one octave ascending and descending)</p>
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	11.2 Play melodies of not less than 16 bars. 11.3 Memorize melodies learnt.
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PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: RUDIMENTS OF MUSIC 1
COURSE CODE: MUT 116
COURSE UNIT: 2
DURATION: 3 Hours per week
GOAL: This course is designed to enable student understand the basic principles of musical structures.
GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know staff notation.
2. Understand values and rests.
3. Understand meters.
4. Know key signatures.

General Objectives	Performance Objectives
Know staff notation.	On completion of this module, the trainee should be able to: <u>Notation</u> 1.1 Recognize lines and space with their letter names. 1.2 Recognize different clefs. 1.3 Write different clefs.
Understand note values and rests.	<u>Note</u> 2.1 Recognize different notes

Understand meters.	<p>values</p> <p>2.2 Recognize different rest values.</p> <p>2.3 Clef different simple rhythms.</p> <p><u>Meters</u></p> <p>3.1 Recognize simple meters.</p> <p>3.2 Clef rhythmic patterns, based on single meters.</p> <p><u>Key Signature</u></p> <p>4.1 Describe basic principle of key signatures.</p> <p>4.2 Recognize different key signatures.</p> <p>4.3 Write different key signatures.</p>
Know key signatures.	

PROGRAMME:
COURSE TITLE:
COURSE CODE:
COURSE UNIT:
DURATION:
GOAL:

MUSIC TECHNOLOGY
HISTORY AND LITERATURE OF NIGERIAN MUSIC I
MUT 117

2

2 Hours per week

This course is designed to enable the student understand the development of history of music in Nigeria from the pre-colonial period to the contemporary period.

GENERAL OBJECTIVE:

On completion of this module, the student should be able to:

1. Know the development of history of music in Nigeria.
2. Understand traditional and contemporary vocal music.
3. Know various categories of music in Nigeria.
4. Understand traditional and contemporary instrumental music.
5. Know the foreign influence on Nigerian music.

General Objectives	Performance Objectives
1.0 Know the development of history of music in Nigeria.	<p>On completion of this module, the trainee should be able to:</p> <p><u>History of music</u></p> <p>1.1 Trace the history of music in Nigeria in the pre-colonial era.</p> <p>1.2 Trace the history of music in Nigeria during the colonial era.</p> <p>1.3 Trace the history of music in Nigeria in the post-independence era.</p> <p>1.4 Trace the history of music in contemporary Nigeria.</p> <p><u>Traditional and Contemporary Music</u></p>

2.0 Understand traditional and contemporary vocal music.	2.1 Identify various traditional and contemporary genres. 2.2 Listen to some of the genres.
3.0 Know various categories of music in Nigeria.	<u>Cat Categories of Music</u> 3.1 Describe traditional/folk music in Nigeria. 3.2 Describe contemporary popular music in Nigeria. 3.3 Describe contemporary Art Music in Nigeria. <u>Instrumental Music</u>
4.0 Understand traditional and contemporary instrumental music.	4.1 Identify various traditional/folk families of musical instruments e.g. membranophones, idiophones, chordophones and aerophones. 4.2 Recognize both the general and local names of the musical instruments e.g. drum (bembe, kalangu, nkwa) wind (pipe, oja, alghaiata). 4.3 Recognize their regional distribution. <u>Foreign Influence on Nigerian Music</u>
5.0 Know the foreign influence on Nigerian music.	5.1 Identify foreign elements in contemporary Nigerian music in rhythm, melody, harmony and instrumentation. 5.2 Identify foreign performance styles.

	5.3 Explain some of the foreign performance styles. 5.4 Evaluate any of the performance styles in 5.2 above.
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PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: MUSICAL ENGINEERING 1
COURSE CODE: MUT 118
COURSE UNIT: 2
DURATION: 3 Hours per week
GOAL: This course is designed to enable student understand the mathematical and mechanical problems relating to musical instrument making and maintenance.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:
1. Know the number series and how to apply them to scaling and fretting.
2. Know mechanic principles.

General Objectives	Performance Objectives
1.0 Know the number series and how to apply them to scaling and fretting. 2.0 Know mechanic principles.	On completion of this module, the trainee should be able to: <u>Number series and scaling</u> 1.1 Recognize the basic principles of geometry, trigonometry and graphs. <u>Mechanic Principles</u> 2.1 Recognize triangle of forces and application to down-beating calculations. 2.2 Recognize reaction at the nut and other simple structure. 2.3 Recognize centre of gravity with applications to musical

	<p>instrument action parts.</p> <p>2.4 Identify guitar and other strings instrument designs.</p> <p>2.5 Identify the principle of lever with applications to piano, wood wind and guitar.</p> <p>2.6 Recognize work and efficiency.</p>
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PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: WOOD TECHNOLOGY
COURSE CODE: MUT 120
COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable student understand the nature of the organic material substance of wood and put workshop tools to practical use and operate wood work machine.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know plant evolution.
2. Know safety regulations.
3. Know practical wood work.

General Objectives	Performance Objectives
1.0 Know plant revolution.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Plant Revolution</u></p> <p>1.1 Explain the maturity of growth rings to timber.</p> <p>1.2 Describe tree classification: monocotyledons, dicotyledons, gymnosperms and angiosperms.</p> <p>1.3 Explain the geographical distribution of wood.</p> <p>1.4 Describe the elementary wood histology.</p> <p>1.5 Identify the behavior of wood and moisture.</p> <p>1.6 Select the appropriate woods and materials for specific jobs.</p> <p><u>Safety Regulation</u></p>

2.0 Know safety regulations.	2.1 Explain factory act and safety precautions and regulations in the workshops.
3.0 Know practical wood work.	3.1 Describe the functions of workshop tools. 3.2 Utilize workshop tools.

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: INTRODUCTION TO MUSICAL ACCOUSTICS
 COURSE CODE: MUT 121
 COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable student understand the physics of musical sound, perception of changes in pitch, volume and elementary accoustical terminologies.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the physics of musical sound.
2. Understand changes in pitch and volume.
3. Understand elementary accoustics terminology.

General Objectives	Performance Objectives
1.0 Know the physics of musical sound.	On completion of this module, the trainee should be able to: <u>Physics of Sound</u> 1.1 Define sound scientifically. 1.2 Distinguish musical sound from ordinary sound.
2.0 Understand changes in pitch and volume.	2.1 Explain factors that determine quality, pitch and loudness of sound. 2.2 State the relationship between frequency of a vibrating string and its length, mass and tension. 2.3 Explain scientifically: a) Musical scales b) Musical intervals 2.4 Explain the concept of resonance.

<p>3.0 Understand elementary acoustic terminology.</p>	<p><u>Acoustics</u></p> <p>3.1 Explain the characteristics of the following</p> <ul style="list-style-type: none"> a. Reflection b. Interference (Constructive and Destructive) c. Pressure d. Diffraction e. Compression f. Rarefaction
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PROGRAMME: MUSIC TECHNOLOGY

COURSE TITLE: INTRODUCTION TO MUSICAL INSTRUMENT TECHNOLOGY II

COURSE CODE: MUT 122

COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student construct one functional wind instrument.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Understand the tools and material needed for the construction of the musical instrument.
2. Understand the processes involved in the construction of one instrument.
3. Understand the designed instrument.

General Objectives	Performance Objectives
<p>1.0 Understand the tools and material needed for the construction of the musical instrument.</p> <p>2.0 Understand the processes involved in the construction of one instrument.</p> <p>3.0 Understand the designed instrument.</p>	<p>On completion of this module, the trainee should be able to:</p> <p><u>Tools and Materials</u></p> <p>1.1 Identify all tool and materials needed for the construction of the instruments and what each tool is used for.</p> <p>2.1 Design the musical instrument.</p> <p>3.1 Construct the designed instrument following the guideline suggested for the design.</p> <p>3.2 Produce a comprehensive write-up on the construction.</p>

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: TECHNICAL DRAWING
 COURSE CODE: MUT 123
 COURSE UNIT: 2
 DURATION: 3 Hours per week

GOAL: This course is designed to enable the student construct loci-ellipse, parabola and hyperbola.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Understand loci-ellipse.
2. Understand parabola and hyperbola
3. Know the screw heads and threads.

General Objectives	Performance Objectives
1.0 Understand loci-ellipse.	On completion of this module, the trainee should be able to: <u>Loci Ellipse</u> 1.1 Draw locus of a moving point with various defined distances. 1.2 Draw ellipse by focal point method, concentric circle method and approximate method.
2.0 Understand parabola and hyperbola.	<u>Parabola and Hyperbola</u> 2.1 Draw parabola using locus method and circumscribing rectangular method. 2.2 Construct hyperbola by locus method.
3.0 know the screw heads and threads.	3.1 Draw left hand and right hand helical spring.

	<p>3.2 Draw right hand circular section spring, draw left hand square thread (double start).</p> <p>3.3 Explain the different functions of screw heads.</p> <p>3.4 Describe each head.</p>
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: EAR TRAINING
 COURSE CODE: MUT 124
 COURSE UNIT: 2
 DURATION: 4 Hours per week
 GOAL:

This course is designed to enable the student to respond to aural tests by recognizing and describing rhythm, melody and harmony in Western and African music.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know rhythm.
2. Know melody progressions.
3. Understand harmony up to dominant seventh.

General Objectives	Performance Objectives
1.0 Know rhythm.	On completion of this module, the trainee should be able to: <u>Rhythm</u> 1.1 Clap simple rhythm patterns. 1.2 Notate simple rhythm patterns.
2.0 Know melody progressions.	<u>Melody</u> 2.1 Perform simple melodies. 2.2 Notate simple melodies.
3.0 Understand harmony up to dominant seventh.	3.1 Identify triads in its root position (closed and extended). 3.2 Identify inverted triads (closed and extended). 3.3 Identify chords within harmony progression. 3.4 Identify internal and external parts.

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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: APPLIED MUSIC II (PRINCIPAL AND SUBSIDIARY)
 COURSE CODE: MUT 125
 COURSE UNIT: 2
 DURATION: 4 Hours per week
 GOAL:

This course is designed to enable student develop further skills in technical studies, perform their set pieces, develop sight reading skills in at least two musical instruments, one of which must be the piano.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know keyboard concepts and skills
2. Understand scales and arpeggios in major/minor keys.
3. Understand set pieces in major and minor keys.
4. Know the purpose and usage of voices and the role of a singer.
5. Know the functions and purposes of technical voice exercise as laid out in GRADED SET PIECES.
6. Know the skills and historionic presentation of singing.
7. Know the principles of choral studies and performance techniques.
8. Understand breath control.
9. Know parts of musical instruments.
10. Understand correct tonguing; “single tonguing”.
11. Know the phrasing of melodies.

General Objectives	Performance Objectives
1.0 Know keyboard and skills.	On completion of this module, the trainee should be able to: <u>Keyboard Skill</u> 1.2 Finger fluently. 1.2 Play notes with speed and steadiness. 1.3 Sight read in succession. 1.4 Acquire varieties of touch-

2.0 Understand the technical knowledge of scales and arpeggios in major/minor keys.	legato, staccato, marcato, tenuto, etc.
3.0 Understanding set pieces in major and minor keys.	2.1 Change finger positions, extensions, contraction, turning and crossing of fingers. 2.2 Recognize types of motions (contrary and similar) ascending and descending. 3.1 Explain historical background of set pieces. 3.2 Recognize form and texture. 3.3 Explain performance style and techniques. 3.4 Play and interpret dynamics.
4.0 Know the purpose and usage of voice training and the role of a singer.	<u>Voices Training</u> 4.1 Explain the principles involved in voice production and management. 4.2 Explain different organs of voice production, viz foundation structure and decoration through various factors.
5.0 The functions and purpose of technical voice exercise as laid out in GRADED PIECES.	5.1 Supervise, demonstrate and expose self to correct application of VOCALISES.
6.0 Know the skills and the histrionic presentation of singing.	6.1 Interpret signs and symbols in music. 6.2 Sight read songs in diatonic scales system. 6.3 Perform simple choral pieces

7.0 Know the principles of choral studies and performance techniques.	by various composers.
8.0 Understand breath control.	7.1 Acquire ensemble voice training for choral performance in groups.
	8.1 Demonstrate the correct breath control by sustaining notes to first 4 counts, 8, 12 and later to notes of longer duration.
9.0 Know parts of musical instruments.	<u>Musical Instruments</u>
	9.1 Learn parts of the musical instruments.
	9.2 Draw and label the parts.
	9.3 Note the functions of the parts.
10.0 Understand correct tongueing; single tongueing.	10.1 Demonstrate tongueing on notes of the melodies.
11.0 Know the phrasing of melodies.	<u>Phrasing of Melodies</u>
	11.1 Play scales one octave (ascending and descending)
	11.2 Play melodies of not less than 16 bars.
	11.3 Memorize melodies learnt.

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: RUDIMENTS OF MUSIC II
 COURSE CODE: MUT 126
 COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable student construct triads, inversions;
 construct dominant seventh chords and its inversions; write cadences.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to construct secondary triads.
2. Understand how to construct dominant seventh chords.
3. Know cadences.

General Objectives	Performance Objectives
Know how to construct secondary triads.	On completion of this module, the trainee should be able to: <u>Traids, Cord and Cadences</u> 1.1 Construct triads, chords in root position. 1.2 Construct triads, and chord in inverted positions.
Understand how to construct dominant seventh chords.	2.1 Construct and Identify dominant seventh chord in root position. 2.2 Construct and identify inversion of the dominant seventh chords.
Know cadences.	3.1 Identify cadences-perfect, imperfect, half, plagal and deceptive. 3.2 Write cadences-perfect,

	imperfect, half and deceptive.
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: HISTORY AND LITERATURE OF NIGERIAN MUSIC II
 COURSE CODE: MUT 127

COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable the student describe development of history of music in Nigeria from the pre-colonial period to the contemporary times.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the development of history of music in Nigeria.
2. Understand traditional and contemporary vocal music.
3. Know various categories of music in Nigeria.
4. Understand traditional and contemporary instrumental music.
5. Know the foreign influence on Nigerian music.

General Objectives	Performance Objectives
1.0 Know the development of history of music in Nigeria.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Development of Music in Nigeria</u></p> <p>1.1 Trace the history of music in Nigeria in pre-colonial era.</p> <p>1.2 Trace the history of music in Nigeria during the colonial era.</p> <p>1.3 Trace the history of music in Nigeria in the post-independence era.</p> <p>1.4 Trace the history of music in contemporary Nigeria.</p> <p><u>Traditional and Contemporary Music</u></p> <p>2.1 Identify various traditional and</p>
2.0 Understand traditional and contemporary	

vocal music.	contemporary genres.
3.0 Know various categories of music in Nigeria.	2.2 Listen to some of the genres.
	3.1 Describe traditional/folk music in Nigeria.
	3.2 Describe contemporary popular music in Nigeria.
	3.3 Describe contemporary Art Music in Nigeria.
4.0 Understand traditional and contemporary instrumental music.	4.1 Identify various traditional/folk families of musical instruments e.g. membranophones, idiophones, chordophones and aerophones.
	4.2 Recognize both the general and local names of the musical instruments e.g. drum (bembe, kalangu, nkwa) wind (pipe, oja, alghaiata).
	4.3 Recognize their regional distribution.
	<u>Foreign Influence on Nigerian Music</u>
5.0 Know the foreign influence on Nigerian music.	5.1 Identify foreign elements in contemporary Nigerian music in rhythm, melody, harmony and instrumentation.
	5.2 Identify foreign performance styles.

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: MUSICAL ENGINEERING II
COURSE CODE: MUT 128
COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable student vibrating strings and materials.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know simple standing wave pattern.
2. Know compound wave patterns.

General Objectives	Performance Objectives
1.0 Know simple standing wave pattern.	On completion of this module, the trainee should be able to: <u>Wave Pattern</u> 1.1 Recognize the basic principles of geometry, trigonometry and graphs.
2.0 Know compound wave patterns.	1.2 Appraise one graph strings and materials in 1.1 above. 2.1 Interpret compound graph. 2.2 Explain methods of interpreting vibrating strings. 2.3 Appraise the materials used in interpreting compound wave pattern.

PROGRAMME: MUSIC TECHNOLOGY (ND ONLY)
 COURSE: STUDENTS' INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)
 DURATION: 4 Months

TASK INVENTORY:

GENERAL OBJECTIVES:

On completion of this module, the student should be able to:

1. Know management structure of the Company/Industry and the relationship between various departments.
2. Know and practice general safety regulations.
3. Understand the technical aspect of maintenance and construction of musical instruments.
4. Demonstrate the acquisition of skills in general musicianship.

General Objectives	Performance Objectives
1. Know management structure of the Company/Industry and the relationship between various departments.	<p>On completion of the Industrial Training Scheme, the student should be able to:</p> <p><u>Management Structure</u></p> <ol style="list-style-type: none"> 1.1 Discuss the historical perspective of the company/Industry. 1.2 Explain the functions of the Board of Directors. 1.3 Explain the organizational structure of the company. 1.4 Explain the structural set up of each department of the company/organization. 1.5 Explain the method of assigning jobs in each department. 1.6 Explain the inter-relationship between various departments. <p><u>General Safety Regulations</u></p> <ol style="list-style-type: none"> 2.1 Apply the general safety regulations in the music industry. 2.2 Demonstrate the various types of first aid
2. Know and practice general safety regulations.	

<p>3. Understand the technical aspect of maintenance and construction of musical instruments.</p>	<p>in respect of electric shock, wound etc. 2.3 Show competence in the application of safe handling of tools. 2.4 Identify fire fighting equipments. <u>Musical Instruments</u> 3.1 Acquire skill in the design and construction of musical instruments. 3.2 Demonstrate adequate skills in the care and maintenance of musical instruments. 3.3 Demonstrate adequate skills in studio recording and production processes.</p>
<p>4. Demonstrate the acquisition of skills in general musicianship.</p>	<p><u>General Musicianship</u> 4.1 Demonstrate appreciable level of efficiency in musical performance. 4.2 Demonstrate efficiency in musical composition.</p>

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: MATERIAL SCIENCE: METAL AND LEATHER
 COURSE CODE: MUT 210
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable student the material science of metal and leather.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the material science of metal.
2. Understand the material science of leather.

General Objectives	Performance Objectives
Know the material science of metal.	On completion of this module, the trainee should be able to: <u>Metal and Leather</u> 1.1 Identify crystalline materials. 1.2 Explain the mechanical property of alloying. 1.3 Describe how alloys work. 1.4 Explain how alloys are treated.
Understand the material science of leather.	2.1 Give critical comparison of leather to other material. 2.2 Explain the techniques of processing of leather. 2.3 Appraise one of the techniques used in processing leather.

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: MUSICAL INSTRUMENT TECHNOLOGY I
 COURSE CODE: MUT 211
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable student apply basic principles of the subject to repair and maintain instruments.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:
 1. Understand the physical properties of musical instrument.
 2. Know how to handle tools and equipments for affective repair and maintenance work.
 3. Know the general maintenance and care of instruments.

General Objectives	Performance Objectives
Understand the physical properties of musical instruments.	On completion of this module, the trainee should be able to: <u>Musical Instrument</u> 1.1 Explain musical instruments, their operation and function in the ensemble.
Know how to handle tools and equipments for affective repair and maintenance work.	2.1 State the importance of tools and equipments in each family. 2.2 Explain modeling tools their usage and maintenance tool.
Know the general maintenance and care of instrument.	3.1 Understand the method of cleaning, oiling, swabbing, packing, pedding and stringing. 3.2 Understand the physical inspection of woodwind, brass and string family. 3.3 Describe percussion storing,

	setting up, hardware shell maller instruments, drum head cleaning, replacements and accessories. 3.4 Repair damaged instruments.
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PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: ACCIUSTICS OF MUSIC I
COURSE CODE: MUT 212
COURSE UNIT: 2
DURATION: 2 Hours per week
GOAL:

This course is designed to enable student discuss scientifically the phenomenon of resonance, pitch, nature and determinants of sound quality musical intervals, temperament and tuning, architectural accoustics and relate it to instrumental constructions and sound production in general.

GENERAL OBJECTIVE:

On completion of this module, the student should be able to:

1. Understand the phenomenon of resonance, pitch and nature and cause of sound quality.
2. Understand the musical intervals and their relationship to the pitch, vibrating string and its length, mass and tension.
3. Know temperament and tuning.
4. Understand architectural acoustics.

General Objectives	Performance Objectives
1. Understand the phenomenon of resonance, pitch and nature and cause of sound quality.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Resonance and Sound</u></p> <p>1.1 Explain resonance.</p> <p>1.2 Demonstrate acoustical resonance by experiment using a vibrating air column and a tension string.</p> <p>1.3 Give example of acoustical</p>

<p>2. Understand the musical intervals and their relationship to the pitch, vibrating string and its length, mass and tension.</p> <p>3. Know temperament and tuning.</p>	<p>resonance.</p> <p>1.4 Give example of resonance.</p> <p>1.5 Demonstrate acoustical resonance by an experiment using tension string and sonometer box.</p> <p>1.6 State the relationship between the frequency of a note emitted by an air column closed at one end of its length (Resonance tube).</p> <p>1.7 Calculate speed of sound in air wave length of air wave length of air column and frequency of tuning fork using the relation between that stated in 1.5 above.</p> <p>1.8 Explain factors that determine quality, pitch and loudness of sound.</p> <p>2.1 Explain scientifically:</p> <p>a) Musical scales</p> <p>b) Musical intervals</p> <p>c) The problem of tuning a keyboard instrument.</p> <p>2.2 Describe the measurement of velocity of sound by echo method, and derive the relationship between velocity of sound and distance.</p> <p>3.1 Explain acoustic resonance by</p>
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<p>4. Understand architectural acoustics.</p>	<p>an experiment using tuning fork and the sonometer.</p> <p>3.2 Explain the processes involved in tuning.</p> <p>3.3 Explain equal tempered scale.</p> <p>4.1 Explain factors that are responsible for good architectural acoustic.</p> <p>4.2 Explain the importance of reverberation.</p> <p>4.3 Explain the phenomenon of echo in relation to architectural acoustics.</p>
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: EAR TRAINING
 COURSE CODE: MUT 213
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student respond to further drills by recognizing and describing intervals, triads, and melodies.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Understand intervals as simple and compound intervals.
2. Know the triads in root close and extended positions.
3. Understand triads and their inversions.
4. Know melodies in major and minor keys in simple time.

General Objectives	Performance Objectives
1. Understand intervals as simple and compound intervals.	On completion of this module, the trainee should be able to: <u>Intervals, Triads and Melody</u> 1.1 Recognize intervals as major, perfect, diminished or augmented. 1.2 Sing or hum the lower and upper note of the intervals. 1.3 Describe the intervals as simple or compound. 1.4 Write down the interval as played.
2. Know the triads in root close and extended positions.	2.1 Recognize triads as major, minor, augmented or diminished. 2.2 State whether the triads is in root, close or extended position. 2.3 Sing or hum the top, middle or

<p>3. Understand triads and their inversions.</p> <p>4. Know melodies in major and minor keys in simple time.</p>	<p>lowest note of the triads.</p> <p>2.4 Write the triads down as played.</p> <p>3.1 State whether a triad is major, minor, diminished or augmented.</p> <p>3.2 State whether a triad is in root position, first or second inversion.</p> <p>3.3 Sing or hum any note of the triad.</p> <p>3.4 Write down a triad as played.</p> <p>4.1 Clap or tap from memory the note values of the melody.</p> <p>4.2 Play, sing or hum the melody from memory.</p> <p>4.3 State the time signature of the melody.</p> <p>4.4 Write down the melody from memory.</p>
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PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: APPLIED MUSIC III (PRINCIPAL AND SUBSIDIARY)
COURSE CODE: MUT 214
COURSE UNIT: 2

DURATION: 4 Hours per week

GOAL: This course is designed to enable student acquire more skills in his chosen instruments.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know keyboard concepts and skills.
2. Understand scales and arpeggios in major/minor keys.
3. Understand set pieces in major and minor keys.
4. Know the purpose and usage of voices and the role of a singer.
5. Know the functions and purposes of technical voice exercise (VOCALISES) as laid out in GRADED SET PIECES.
6. Know the skills and historionic presentation of singing.
7. Know the principles of choral studies and performance techniques.
8. Understand breath control.
9. Know parts of musical instruments.
10. Understand correct tongueing; “single tongueing”.
11. Know the phrasing of melodies.

General Objectives	Performance Objectives
1.0 Know keyboard and skills.	On completion of this module, the trainee should be able to: <u>Keyboard Skill</u> 1.1 Finger fluently. 1.2 Play notes with speed and steadiness. 1.3 Sight read notes in succession. 1.4 Acquire varieties of touch- legato, staccato, marcato, tenuto,

2.0 Understand scales and arpeggios in major/minor keys.	etc.
	2.1 Change finger positions, extensions, contraction, turning and crossing of fingers.
	2.2 Recognize types of motions (contrary and similar) ascending and descending.
3.0 Understanding set pieces in major and minor keys.	3.1 Explain historical background of set pieces.
	3.2 Recognize form and texture.
	3.3 Explain performance style and techniques.
	3.4 Play and interpret dynamics.
	<u>Singing</u>
4.0 Know the usage of voice training and the role of a singer.	4.1 Explain the principles involved in voice production and management.
	4.2 Explain different organs of voice production, viz foundation structure and decoration through various factors.
5.0 Know the functions and purpose of technical voice exercise as laid out in GRADED PIECES.	5.1 Demonstrate the correct application of VOCALISES.
6.0 Know the skills and the histrionic presentation of singing.	6.1 Interpret signs and symbols in music.
	6.2 Sight read songs in diatonic scales system.
	6.3 Perform simple choral pieces

7.0 Know the principles of choral studies and performance techniques.	by various composers. 7.1 Acquire ensemble voice training for choral performance.
8.0 Understand breath control.	8.1 Demonstrate the correct breath control by sustaining notes to first 4 counts, 8, 12 and later to notes of longer duration.
9.0 Know parts of musical instruments.	<u>Musical Instruments</u> 9.1 Learn parts of the musical instruments. 9.2 Draw and label the parts. 9.3 Note the functions of the parts.
10.0 Understand correct tongueing; single tongueing.	10.1 Demonstrate tongueing on notes of the melodies.
11.0 Know the phrasing of melodies.	<u>Phrasing of Melodies</u> 11.1 Play scales one octave (ascending and descending) 11.2 Play melodies of not less than 16 bars. 11.3 Memorize melodies learnt.

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: INSTRUMENTATION
 COURSE CODE: MUT 215
 COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable student understand the basic principle of instrumentation, making use of African and European instruments.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the basic principle of instrumentation.
3. Know correct barring and bracing.

General Objectives	Performance Objectives
1.0 Know the basic principles of instrumentation.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Instrumentation</u></p> <p>1.1 Explain the concept of instrumentation.</p> <p>1.2 Appraise the principles of instrumentation: instruments in English, French, Italian and African, tone colours as well as instruments.</p> <p>1.3 Recognize clefs and explain transposition techniques of the instruments.</p> <p><u>Bar</u></p> <p>2.1 Demonstrate how to brace and draw bar lines correctly.</p> <p>2.2 Demonstrate legible musical writing and bar numbering.</p> <p>2.3 Appraise any legible musical</p>
2.0 Know correct barring and bracing.	

	writing or bar numbering from 2.2 above.
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: TONAL HARMONY I
 COURSE CODE: MUT 216
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable student write simple harmonic progressions, employing diatonic chords up to the dominant seventh.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the principles of part writing.

General Objectives	Performance Objectives
1.0 Know principles of part writing.	On completion of this module, the trainee should be able to: <u>Wave Pattern</u> 1.1 Explain the basic principles of part writing. 1.2 Describe some of the principles in 1.1 above. 1.3 Utilize diatomic chords up to dominant seventh. 1.4 Appraise the utilization of 1.2 above.

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: HISTORY AND LITERATURE OF AFRICAN MUSIC
COURSE CODE: MUT 217

COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable the student know the historical, literary and aesthetic aspects of African music with reference to Nigerian cultural groups. Know the similarities and difference in the music of various linguistic and religious groups within Nigeria.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the historical literary and aesthetic aspects of music.
2. Know the differences and similarities among various ethnic music.
3. Know the difference between xylophone from the east and its counterpart from the north.

General Objectives	Performance Objectives
1.0 Know the historical literary and aesthetic aspects of music.	On completion of this module, the trainee should be able to: 1.1 Trace the historical development of music in Africa and relate such development to African music in the pre-colonial era. 1.2 Describe various characteristics of Nigeria traditional music. 1.3 Describe regional distribution of Nigerian musical instruments.
2.0 Know the differences and similarities among various ethnic music.	2.1 Recognize similarities between Hausa “ganga” and Yoruba “gangan”; Kalangu and Kannango respectively.

<p>3.0 Know the difference between xylophone from the east and its counterpart from the north.</p>	<p>2.2 Describe the differences of the instruments in 2.1 above.</p> <p>3.1 Recognize the difference between a Birom xylophone and Igbo xylophone.</p> <p>3.2 Describe how each could be played.</p> <p>3.3 Appraise the tonal function of each.</p>
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PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: FINAL YEAR PROJECT
COURSE CODE: MUT 218
COURSE UNIT: 2

DURATION: 6 Hours per week

GOAL: This course is designed to enable the student construct/fabricate instrument and write a technical essay on the processes of construction.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to constructs musical instrument(s).

General Objectives	Performance Objectives
1.0 Know how to constructs musical instrument(s).	<p>On completion of this module, the trainee should be able to:</p> <p>1.1 Design and fabricate from original or copied design, a functional musical instrument of a set of musical instruments.</p> <p>1.2 Write a technical essay on historical background, of the instruments.</p> <p>1.3 Write a technical essay on the construction processes of the instrument above.</p> <p>1.4 Write a technical essay on the scientific theory of the instrument.</p>

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: MUSICAL INSTRUMENT TECHNOLOGY II
COURSE CODE: MUT 221
COURSE UNIT: 3

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student demonstrate further skills in tuning piano, know the inner parts of the piano such as hammers, heads, strings etc.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to tune a piano.

General Objectives	Performance Objectives
1.0 Know how to tune a piano.	<p>On completion of this module, the trainee should be able to:</p> <p>1.1 Demonstrate considerable ability in piano tuning.</p> <p>1.2 Describe the inner parts of the piano tuning.</p> <p>1.3 Explain the function of hammers in a piano.</p> <p>1.4 Explain the role of heads and strings in the piano.</p>

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: ACCOUSTICS OF MUSIC II
 COURSE CODE: MUT 222
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student know how the acoustical principles of Aerophone e.g Kakaki, Alghaita, oja etc.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Understand the Accoustical principles of Aerophones.

General Objectives	Performance Objectives
1.0 Understand the Accoustical principles of Aerophones.	<p>On completion of this module, the trainee should be able to:</p> <p>1.1 Describe the acoustics of aerophones such as kakaki and others.</p> <p>1.2 Identify their component parts.</p> <p>1.3 Explain the importance of Reeds.</p> <p>1.4 Describe the significance of the mouth piece on any of the aerophonic instruments.</p> <p>1.5 Appraise each mouth piece in 1.4 above.</p>

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: APPLIED MUSIC TECHNOLOGY
COURSE CODE: MUT 223
COURSE UNIT: 2

DURATION: 4 Hours per week

GOAL: This course is designed to enable the student demonstrate a practical application of the knowledge acquired in MUT 211 and MUT 221.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know all the component parts of the piano.
2. Know how to handle efficiently all the repair tools.
3. Understand methods of keeping the piano in good condition.

General Objectives	Performance Objectives
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1.0 Know all the component parts of the piano.	On completion of this module, the trainee should be able to: 1.1 Loosen the piano. 1.2 Describe each of the parts. 1.3 Discuss mechanically the functions of each of the component parts.
2.0 Know how to handle efficiently all the repair tools.	2.1 Call each tool by the registered name. 2.2 Discuss the use of each tool. 2.3 Handle each of them practically to work on the piano.
3.0 Understand methods of keeping the piano in good condition.	3.1 Explain how to protect the piano from the effects of tropical atmospheric conditions. 3.2 Service of piano for greater efficiency.

PROGRAMME:

MUSIC TECHNOLOGY

COURSE TITLE:

APPLIED MUSIC IV (PRINCIPAL AND SUBSIDIARY)

COURSE CODE:

MUT 224

COURSE UNIT:

2

DURATION:

4 Hours per week

GOAL:

This course is designed to enable student acquire advanced skills on their chosen musical instruments.

GENERAL OBJECTIVE:

On completion of this module, the student should be able to:

1. Know keyboard concepts and skills.
2. Understand scales and arpeggios in major/minor keys.

3. Understand set pieces in major and minor keys.
4. Know the purpose and usage of voices and the role of a singer.
5. Know the functions and purposes of technical voice exercise (VOCALISES) as laid out in GRADED SET PIECES.
6. Know the skills and historic presentation of singing.
7. Know the principles of choral studies and performance techniques.
8. Understand breath control.
9. Know parts of musical instruments.
10. Understand correct tonguing; “single tonguing”.
11. Know the phrasing of melodies.

General Objectives	Performance Objectives
1.0 Know keyboard concepts and skills.	On completion of this module, the trainee should be able to: <u>Keyboard Skill</u> 1.2 Finger fluently. 1.2 Play notes with speed and steadiness. 1.3 Sight read notes in succession. 1.4 Acquire varieties of touch- legato, staccato, marcato, tenuto, etc.
2.0 Understand scales and arpeggios in major/minor keys.	2.1 Change finger positions, extensions, contraction, turning and crossing of fingers. 2.2 Recognize types of motions (contrary and similar) ascending and descending.
3.0 Understanding set pieces in major and minor keys.	3.1 Explain historical background of set pieces. 3.2 Recognize form and texture.

4.0 Know the usage of voice training and the role of a singer.	3.3 Explain performance style and techniques. 3.4 Play and interpret dynamics. <u>Singing</u> 4.1 Explain the principles involved in voice production and management. 4.2 Explain different organs of voice production, viz foundation structure and decoration through various factors.
5.0 Know the functions and purpose of technical voice exercise as laid out in GRADED PIECES.	5.1 Demonstrate the correct application of VOCALISES.
6.0 Know the skills and the histrionic presentation of singing.	6.1 Interpret signs and symbols in music. 6.2 Sight read songs in diatonic scales system. 6.3 Perform simple choral pieces by various composers.
7.0 Know the principles of choral studies and performance techniques.	7.1 Acquire ensemble voice training for choral performance.
8.0 Understand breath control.	8.1 Demonstrate the correct breath control by sustaining notes to first 4 counts, 8, 12 and later to notes of longer duration.
9.0 Know parts of musical instruments.	<u>Musical Instruments</u> 9.1 Learn parts of the musical

10.0 Understand correct tongueing; single tongueing.	instruments. 9.2 Draw and label the parts. 9.3 Note the functions of the parts.
11.0 Know the phrasing of melodies.	10.1 Demonstrate tongueing on notes of the melodies. <u>Phrasing of Melodies</u> 11.1 Play scales one octave (ascending and descending) 11.2 Play melodies of not less than 16 bars. 11.3 Memorize melodies learnt.

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: ORCHESTRATION
 COURSE CODE: MUT 225
 COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable the student write and orchestrate works for performance at departmental rehearsals and concerts.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to score 4 part music for each of the families of orchestra.
2. Know how to score 2 part pieces for small orchestra.
3. Know how to score for a mixed orchestra of wood wind brass and strings.

General Objectives	Performance Objectives
<ol style="list-style-type: none"> 1. Know how to score 4 part music for each of the families of orchestra. 2. Know how to score 2 part pieces for small orchestra. 3. Know how to score for a mixed orchestra of wood wind brass and strings. 	<p>On completion of this module, the trainee should be able to:</p> <p><u>Orchestration</u></p> <ol style="list-style-type: none"> 1.1 Score 4-part music for a wood wind ensemble. 1.2 Score 4-parts music for brass ensemble. 1.3 Score 4-parts music for string ensemble. 2.1 Score 2-part piano pieces for woodwind, brass and string ensemble. 2.2 Score for a chamber orchestra. 2.3 Reduce from open score to short score. 3.1 Score 4-part music for mixed orchestra. 3.2 Score 2 part music for a mixed

	<p>orchestra.</p> <p>3.3 Score for a dance band and marching band.</p>
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PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: TONAL HARMONY II
COURSE CODE: MUT 226
COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable the student use diatonic chords and carry out exercises in elementary modulation.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to use diatonic chords in part writing.
2. Know how to prepare elementary modulation.

General Objectives	Performance Objectives
<ol style="list-style-type: none">1. Know how to use diatonic chords in part writing.2. Know how to prepare elementary modulation.	<p>On completion of this module, the trainee should be able to:</p> <ol style="list-style-type: none">1.1 Understand how to employ diatonic chords in part writing.2.1 Write harmonic passages which consists of elementary modulation.

PROGRAMME: MUSIC TECHNOLOGY

COURSE TITLE: OUTLINE HISTORY AND LITERATURE OF WESTERN MUSIC

COURSE CODE: MUT 227

COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable the student know the historical development of Western music including various musical forms from antiquity to the end of Baroque (ie 1750)

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the historical development of music in the antiquity.
2. Know the development of church music in the medieval period.
3. Understand the development of church musical forms.
4. Understand the various modes used in the middle ages.
5. Know the development of secular music in the medieval period.
6. Know the historical development of Renaissance music.
7. Understand Franco-Flemish music.
8. Know musical instruments and instrumental music of the Renaissance.
9. Understand the system of musical notation.
10. Know the historical development of music of the Baroque period.

General Objectives	Performance Objectives
<ol style="list-style-type: none">1. Know the historical development of music in the antiquity.2. Know the development of church music in the medieval period.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Antiquity and Medieval Period</u></p> <p>1.1 Trace music history and forms of ancient civilization (e.g Greek, Romans, Chinese, Egyptian music).</p> <p>2.1 Trace the development of various chants used in the church (Galica, Mozarabic, Gregorian and Ambrosian chants).</p>

9. Understand the system of musical notation.	9.1 Describe the basic features of the system of musical notation of the period.
10. Know the historical development of music of the Baroque period.	10.1 Describe the general characteristics of the music of the Baroque period (Basse, Continue, New forms, Nouve Musiche).

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: FINAL YEAR PROJECT
COURSE CODE: MUT 228
COURSE UNIT: 2

DURATION: 6 Hours per week

GOAL: This course is designed to enable the student design, construct, fabricate a musical instrument and write a technical essay on the processes of construction.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to design and construct musical instrument.

General Objectives	Performance Objectives
1. Know how to design and construct musical instrument.	On completion of this module, the trainee should be able to: 1.1 Design a chosen musical instrument. 1.2 construct the chosen musical instrument in 1.1 above.

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: ACCOUSTICS OF MUSIC I
 COURSE CODE: MUT 311
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student have a thorough knowledge of sound wave in sound production, know psychological effects of acoustic features on sound propagation and be able to carry out mathematical calculations of musical sound production.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Understand sound waves.
2. Understand psychological effects of acoustics features.
3. Understand some mathematical calculations of musical sound production.

General Objectives	Performance Objectives
1. Understand sound waves.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Sound Waves</u></p> <p>1.1 List examples of energy transfer by waves.</p> <p>1.2 Explain roles of medium in propagation of sound waves.</p> <p>1.3 Illustrate wave motion graphically.</p> <p>1.4 Define the following terms: Frequency, Wavelength, Velocity, Amplitude, Displacement, and partials.</p> <p><u>Acoustic Features</u></p> <p>2.1 Demonstrate that sound will not</p>
2. Understand psychological effects of	

acoustics features.	<p>travel through a vacuum.</p> <p>2.2 Explain compression and rarefaction in longitudinal wave propagation.</p> <p>2.3 Explain the cause of echoes.</p> <p>2.4 Describe measurement of depth of sea by echo sounding and determine the relationship between speed of wave in water, time to receive the echo and depth of the sea.</p> <p><u>Calculation of Sound</u></p> <p>3.1 State the mathematical relationship between frequency and period, frequency, wavelength and velocity.</p> <p>3.2 Calculate period, wavelength and frequency of waves, applying the mathematics relationship.</p> <p>3.3 Explain the use of stroboscope in measuring the sound wave.</p> <p>3.4 Explain longitudinal waves.</p>
3. Understand some mathematical calculations of musical sound production.	

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: APPLIED MUSIC TECHNOLOGY I
 COURSE CODE: MUT 312
 COURSE UNIT: 2

DURATION: 4 Hours per week

GOAL: This course is designed to enable student tune xylophnone, box quitter, mole etc. Understand the detailed properties of adhesives (including practical work) adhesive fillers and extenders; know simple polymer chemistry solvents and concepts of solvent balance viscosity and tests for drying and dried firms.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the general description an evolution of keyboard instruments and other related keyboard instruments in Western and African music.
2. Know the process of action finishing of grand and upright fortes.
3. Know the process of frame setting.
4. Know properties of adhesives and finishes.

General Objectives	Performance Objectives
1.0 Know the general description an evolution of keyboard instruments and other related keyboard instruments in Western and African music.	On completion of this module, the trainee should be able to: <u>Keyboard Instrument</u> 1.1 Describe various early keyboard instruments and their historical background. 1.2 Describe the use of tuning meters and tuning hammer. 1.3 Describe typres of actions, pedaling and fitting. <u>Finishing Process</u>
2.0 Know the process of action finishing of grand and upright fortes.	2.1 Describe the preparation of keys.

	<p>2.2 Describe the preparation of the action and set up of the action and action finishing of Grand and upright piano.</p> <p>2.3 Explain cutting and rolling hammer shanks.</p> <p>2.4 Explain leveling and spacing of hammers and fitting of other action parts.</p> <p><u>Frame Setting</u></p>
<p>3.0 Know the process of frame setting.</p>	<p>3.1 Explain the setting up of key frames to suit action scale and lock front.</p> <p>3.2 Describe filling drop action life wires.</p> <p><u>Adhesive and Finishes</u></p>
<p>4.0 Know properties of adhesives and finishes.</p>	<p>4.1 Explain the use of filler and extenders.</p>

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: INTRODUCTION TO ELECTRONICS
 COURSE CODE: MUT 313
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable student identify Electronic components and know their working principles and functions in electronic circuits.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the working principles of Diode valve rectifiers.
2. Know the properties of semi-conductors.
3. Know the properties of resistor.
4. Know the properties of transformers.
5. Know instruments and appliances care.

General Objectives	Performance Objectives
1.0 Know the working principles of Diode valve rectifiers.	On completion of this module, the trainee should be able to: <u>Valve Rectifiers and Semi-Conductor</u>
2.0 Know the properties of semi-conductors.	1.1 Identify the different parts of a Diode valve and low current flow on it. 2.1 Explain the types of semi-conductor materials, the basic construction and the working principles of a junction type transistor.
3.0 Know the properties of resistor.	<u>Resistors and Transformer</u> 3.1 Describe how colour code could be read for resistor value identifications of resistors and the

<p>4.0 Know the properties of transformers.</p> <p>5.0 Know instruments and appliances care.</p>	<p>mathematics relationship between resistance, voltage and current and be able to identify circuit symbol for resistors.</p> <p>3.2 Calculate the total value of resistors in series and parallel; Calculate the total value of capacitors in parallel and in series; mathematical relationship between the charge capacitors and voltage.</p> <p>4.1 Identify circuit for transformer, the functions of transformer, the ratio of primary turns to secondary turns, the working turns, the working principle of step down transformers.</p> <p>Identify AC/DC transformer, how to wind coil in transformer.</p> <p>5.1 Explain the uses and care of electronic measuring instruments such as ammeters, oscilloscopes, bridges instruments and frequency analyzes.</p>
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: TECHNICAL DRAWING
 COURSE CODE: MUT 314
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable student draw detailed pictorial representation of the component parts of the musical instruments, orthographically represented.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to draw, using the first angle orthographic projection systems.
2. Know how to draw, using the third angle orthographic projection systems.

General Objectives	Performance Objectives
1.0 how to draw, using the first angle orthographic projection systems.	<p>At the end of the module, the trainee should be able to:</p> <p>1.1 Draw horizontal and vertical planes in the first angle from the quadrants.</p> <p>1.2 Draw views of object on planes, using systems of parallel projections normal to the planes viz Front Elevation, End view and plan as projected directly from a given pictorially drawn object.</p> <p>1.3 Draw auxiliary vertical plane for end view.</p> <p>1.4 Represent orthographical views in first angle projection.</p>

<p>2.0 how to draw, using the third angle orthographic projection systems.</p>	<p>2.1 Draw horizontal and vertical planes in the third angle from the quadrants.</p> <p>2.2 Draw views of object on planes, using systems of parallel projector normal to the planes front Elevation, End view and plan projected directly from a given pictorial drawing.</p>
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: AFRICAN MUSIC: MUSIC IN SOCIETY
 COURSE CODE: MUT 315
 COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable the student discuss the role and function of music in the society, estimate the effect of foreign influences on African music and describe the various musical instruments and their performance techniques.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:
 1. Know the role and functions of music in society.
 2. Know the effect of external forces on folk music practice.
 3. Know the performance techniques and practices.

General Objectives	Performance Objectives
1.0 Know the role and functions of music in society.	On completion of this module, the trainee should be able to: <u>Music Practices</u> 1.1 Describe the various types of music used in the society. 1.2 Describe the functions of each type of music among the people.
2.0 Know the effect of external forces on folk music practice.	2.1 Identify foreign influences on African music. 2.2 Identify continuity and change in African music.
3.0 Know the performance techniques and practices.	<u>Performance Techniques</u> 3.1 Identify the different musical genres in the society (both vocal and instrumental). 3.2 Distinguish between roles of

	<p>the lead performer and the supporting performers.</p> <p>3.3 Describe various drums and vocal techniques.</p> <p>3.4 Distinguish between performance practice and performance.</p> <p>3.5 Discuss the common musical practices in the society.</p>
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: HISTORY OF WESTERN MUSIC I
 COURSE CODE: MUT 316
 COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable the student know the historical development of Western music from the classical to the Romantic period.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the historical development of music during the classical period.
2. Know the historical development of music in the Romantic Era.

General Objectives	Performance Objectives
1.0 Know the historical development of music during the classical period (1750-1820).	On completion of this module, the trainee should be able to: <u>Music Practices</u> 1.1 Explain the general characteristics of classical music with reference to form, texture, melodic style and harmony. 1.2 Identify the contributions of representative composers of the period. 1.3 Describe classical sonata form.
2.0 Know the historical development of music in the Romantic Era (1820-1900).	<u>Romantic Era</u> 2.1 Explain the general characteristics of Romantic music with particular reference to melody, harmony, tonality, texture dynamics and forms. 2.2 Identify the foremost masters of the 19 th century music.

	2.3 Describe various media and forms of Romantic music. 2.4 Recognize the important musical works of the period.
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: COMPOSITION (CHORAL)
 COURSE CODE: MUT 317
 COURSE UNIT: 2

DURATION: 4 Hours per week

GOAL: This course is designed to enable the student know the techniques of composing for solo and mixed voices.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know compositional techniques for solo voice.
2. Know compositional techniques for mixed voices.

General Objectives	Performance Objectives
1.0 Know compositional techniques for solo voice.	On completion of this module, the trainee should be able to: <u>Solo</u> 1.1 Identify the ranges of voices. 1.2 Transcribe from one clef to another clef (e.g G. clef to another voice-versa). 1.3 Understand how to write for solo voice.
2.0 Know compositional techniques for mixed voices.	<u>Composition Techniques</u> 2.1 Explain how to write for female voices in S.A or S.A.A. with or without accompaniment. 2.2 Write for male voices in T.B. or write T.B.B. with or without

	<p>accompaniment.</p> <p>2.3 Compose for chorus, S.A.T.B. with or without accompaniment.</p>
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: ADVANCE APPLIED MUSIC I (PRINCIPAL AND SUBSIDIARY)
 COURSE CODE: MUT 318
 COURSE UNIT: 2

DURATION: 4 Hours per week

GOAL: This course is designed to enable student develop advanced skills in technical studies, perform their set pieces and develop sight reading skills in at least two musical instruments of which must be the keyboard.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know keyboard concepts and skills.
2. Understand scales and arpeggios in major/minor keys.
3. Understand set pieces in major and minor keys.
4. Know the purpose and usage of voices and the role of a singer.
5. Know the functions and purposes of technical voice exercise (VOCALISES) as laid out in GRADED SET PIECES.
6. Know the skills and historic presentation of singing.
7. Know the principles of choral studies and performance techniques.
8. Understand breath control.
9. Know parts of musical instruments.
10. Understand "single tonguing".
11. Know the phrasing of melodies.

General Objectives	Performance Objectives
1.0 Know keyboard concepts and skills.	On completion of this module, the trainee should be able to: <u>Keyboard Skill</u> 1.1 Finger fluently. 1.2 Play notes with speed and steadiness. 1.3 Sight read notes in succession. 1.4 Acquire varieties of touch-

2.0 Understand scales and arpeggios in major/minor keys.	legato, staccato, marcato, tenuto, etc.
	2.1 Change finger positions, extensions, contraction, turning and crossing of fingers.
	2.2 Recognize types of motions (contrary and similar) ascending and descending.
3.0 Understanding set pieces in major and minor keys.	3.1 Explain historical background of set pieces.
	3.2 Recognize form and texture.
	3.3 Explain performance style and techniques.
	3.4 Play and interpret dynamics.
4.0 Know the usage of voice training and the role of a singer.	<u>Singing</u>
	4.1 Explain the principles involved in voice production and management.
	4.2 Explain different organs of voice production, viz foundation structure and decoration through various factors.
5.0 Know the functions and purpose of technical voice exercise as laid out in GRADED PIECES.	5.1 Demonstrate the correct application of VOCALISES.
6.0 Know the skills and the histrionic presentation of singing.	6.1 Interpret signs and symbols in music.
	6.2 Sight read songs in diatonic scales system.

7.0 Know the principles of choral studies and performance techniques.	6.3 Perform simple choral pieces by various composers.
8.0 Understand breath control.	7.1 Acquire ensemble voice training for choral performance.
9.0 Know parts of musical instruments.	8.1 Demonstrate the correct breath control by sustaining notes to first 4 counts, 8, 12 and later to notes of longer duration.
10.0 Understand single tongueing.	9.1 Learn parts of the musical instruments.
11.0 Know the phrasing of melodies.	9.2 Draw and label the parts.
	9.3 Note the functions of the parts.
	10.1 Demonstrate tongueing on notes of the melodies.
	11.1 Play scales (one octave ascending and descending)
	11.2 Play melodies of not less than 16 bars.
	11.3 Memorize melodies learnt.

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: MUSIC TECHNOLOGY I (AFRICAN WIND INSTRUMENTS)
 COURSE CODE: MUT 317
 COURSE UNIT: 2
 DURATION: 3 Hours per week
 GOAL: This course is designed to enable the student construct traditional musical instrument (e.g Aerophones Ekutu, Ipe, Oja, etc.).
 GENERAL OBJECTIVE: On completion of this module, the student should be able to:
 1. Know the evolution and processes of construction.

General Objectives	Performance Objectives
1.0 Know the evolution and processes of construction.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Construction of Instruments</u></p> <p>1.1 Explain the historical background of the instrument.</p> <p>1.2 Identify the appropriate tools used in its construction.</p> <p>1.3 Describe the general processes of construction of the instrument.</p> <p>1.4 Describe the principles of sound production, how the instrument is made and the material used.</p>

PROGRAMME: MUSIC TECHNOLOGY

COURSE TITLE: MUSIC TECHNOLOGY II (Reed Organ)

COURSE CODE: MUT 320

COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student know the general description of Reed organ and how it operates.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the evolution of pipe and Reed Organ/Harmonium.

General Objectives	Performance Objectives
1.0 Know the evolution of pipe and Reed Organ/Harmonium.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Reed and Pipe Organ</u></p> <p>1.1 Describe organ parts and how they operate.</p> <p>1.2 Demonstrate the keyboard fittings of the organ to the wind chest and its linkage to the stop action.</p> <p>1.3 Describe its bellows generator and reservoir.</p> <p>1.4 Describe the Reed and Pipe organ and how to tune them.</p> <p>1.5 describe the reeds and hoe to tune them.</p> <p>1.6 Describe balancing stops.</p> <p>1.7 Repair action, wind chest and bellows.</p> <p>1.8 Identify common faults and</p>

	how to rectify them.
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: ACCOUSTICS OF MUSIC II
 COURSE CODE: MUT 321
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student know musical Accoustics, concepts of Accoustical principles of Membraphones and Idiophones e.g. Benbe and Agidigbo.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:
 1. Know musical Accoustics.
 2. Know the concept of Accoustical principles and how it could be used to construct membraphones and idiophones instruments.

General Objectives	Performance Objectives
1.0 musical Accoustics.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Principles of Accoustics</u></p> <p>1.1 Explain the basic principles of Accoustics as a scientific concept.</p> <p>1.2 Relate the knowledge of Accoustical principles to music as relate to the construction of instrument.</p> <p>1.3 Relate the knowledge of Accoustical principles to the production and reproduction of sound, how acoustics affects production and reproduction of music.</p> <p>1.4 Calculate reverberation time.</p> <p><u>Accoustica Principles for</u></p>

<p>2.0 Know the concept of Accoustical principles and how it could be used to construct membraphones and idiophones instruments.</p>	<p><u>Construction</u></p> <p>2.1 State the relationship between frequency of a vibrating body and the length and size of the body.</p> <p>2.2 Identify the function and the assembly in different component part of the instruments.</p> <p>2.3 Illustrate with diagram the different stages in the construction of the instrument.</p>
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: APPLIED MUSIC TECHNOLOGY II
 COURSE CODE: MUT 322
 COURSE UNIT: 2

DURATION: 4 Hours per week

GOAL: This course is designed to enable the student tune the piano, repair xylophone, molo, box quitter and goge.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the process of action regulating.
2. Know the basic piano forte scale calculations and elementary scale design factors.
3. Know basic tuning.
4. Know the component parts and the processes of constructing selected string instruments and idiophone.

General Objectives	Performance Objectives
1.0 Know the process of action regulating.	On completion of this module, the trainee should be able to: <u>Keyboard Instrument</u> 1.1 Recognize key easing, harmer blow, adjustment, taking up loss motion, bridle wire adjustment, fine laying of keys, check leveling. 1.2 Explain the harmmer paralled motion, damper life regulation, damper speed regulation, pedal rod fitting, adjustment damper and jack rail adjustment.
2.0 Know the basic piano forte scale calculations and elementary scale design factors.	2.1 Show calculation of string parameters, calculation of covered string parameters, use of constants

<p>3.0 Know basic tuning.</p> <p>4.0 Know the component parts and the processes of constructing selected string instruments and idiophone.</p>	<p>calculations.</p> <p>2.2 Describe even tension scaling and choice of tension, overall back dimensions and basic string length, choice of strike position and strike proportion, select string length as related to strike position.</p> <p>3.1 Describe the method of tuning in perfect fifth and octaves.</p> <p>3.2 Describe vanishing and refinishing and polishing the base.</p> <p>4.1 Carry out general repair and tuning.</p> <p>4.2 Describe the maintenance and repair of fingerboard, acrel and body.</p> <p>4.3 Explain the repairs of the selected instrument.</p>
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PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: RESEARCH METHOD IN MUSIC TECHNOLOGY
COURSE CODE: MUT 323
COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student identify, analyze synthesize, evaluate, communicate facts and ideas and present conclusion in a formal report.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the methodology and application of techniques to identify, analyze synthesize, evaluate and communicate facts and ideas to present conclusion in a formal report.

General Objectives	Performance Objectives
1.0 Know the methodology and application of techniques to identify, analyze synthesize, evaluate and communicate facts and ideas to present conclusion in a formal report.	On completion of this module, the trainee should be able to: 1.1 Present conclusions in a formal report.

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: TECHNICAL DRAWING
 COURSE CODE: MUT 324
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student draw a detailed pictorial representation of the component parts of the musical instruments orthographically presented.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know sectional views.
2. Understand the methods of producing isomeric drawings from given orthographic views.

General Objectives	Performance Objectives
1.0 Know sectional views.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Section Views</u></p> <p>1.1 Draw correct angular hatching lines to differentiate separate sectional unit parts and also to cut a plane in half, full and broken-out sections.</p> <p>1.2 Draw orthographic views of a sectionalized component.</p> <p><u>Isomeric Drawings</u></p> <p>2.1 Explain objects that are composed entirely of isomeric lines (lines on an object being located by angles).</p> <p>2.2 Produce objects with a curved profile by making use of ordinate</p>
2.0 Understand the methods of producing isomeric drawings from given orthographic views.	

	and parallel lines, produce objects with circular parts.
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: AFRICAN MUSIC (Theoretical Studies)
 COURSE CODE: MUT 325
 COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable the student understand melodic, harmonic and rhythmic properties of music, musical instruments and organizational structures.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know rhythmic, melodic and properties of music and musical instruments.
2. Know organizational structures of music and musical instruments.

General Objectives	Performance Objectives
1.0 Know rhythmic, melodic and properties of music and musical instruments.	On completion of this module, the trainee should be able to: <u>Properties of Music and Musical Instruments</u> 1.1 Identify rhythmic properties of music. 1.2 Describe the types of rhythmic musical instruments. 1.3 Analyze the different types of melodic properties of music. 1.4 Evaluate a chosen type of melodic musical instrument.
2.0 Know organizational structures of music and musical instruments.	2.1 Identify the organizational structures of music. 2.2 Write out the organizational structure identified in 2.1 above. 2.3 evaluate some organizational

	structures of selected musical instruments.
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PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: HISTORY OF WESTERN MUSIC II
COURSE CODE: MUT 326
COURSE UNIT: 2

DURATION: 2 Hours per week

GOAL: This course is designed to enable the student know the historical development of music and musical forms in the 20th century.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the historical development of music and musical forms in the 20th century.

General Objectives	Performance Objectives
1.0 Know the historical development of music and musical forms in the 20 th century.	<p>On completion of this module, the trainee should be able to:</p> <p><u>20th Century Music</u></p> <p>1.1 Explain the general trends of music in the 20th century.</p> <p>1.2 Discuss radical innovations during the period.</p> <p>1.3 Recognize the importance of technology to the development of 20th century music.</p> <p>1.4 Describe the emergence of Jazz, Absolute music, Aleatory music, etc.</p> <p>1.5 Explain the conventional and the new media practiced in 20th century.</p> <p>1.6 Describe the concept of meter, rhythm and harmony in the 20th century.</p>

	1.7 Describe major 20 th century composers.
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: COMPOSITION (INSTRUMENTAL)
 COURSE CODE: MUT 327
 COURSE UNIT: 2

DURATION: 4 Hours per week

GOAL: This course is designed to enable the student know the principles of instrumental composition.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the principles of instrumental composition.
2. Know how to harmonise melodies.
3. Know how to write the accompaniments.

General Objectives	Performance Objectives
1.0 Know the principles of instrumental composition.	On completion of this module, the trainee should be able to: <u>Composition</u> 1.1 Identify the forms, structures, texture, variations etc. 1.2 Explain the use of clefs in instrumental composition. 1.3 Identify the range of musical instruments.
2.0 Know how to harmonise melodies.	<u>Melodies</u> 2.1 Write two-part harmony for instruments. 2.2 Write three part harmony for instruments. 2.3 Write four or more parts for instruments.
3.0 Know how to write the accompaniments.	3.1 Write piano forte accompaniment.

	3.2 Orchestrate pieces for a) Western orchestral Instrument. b) African Instruments c) Both (a) and (b).
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PROGRAMME: MUSIC TECHNOLOGY

COURSE TITLE: APPLIED MUSIC II (PRINCIPAL AND SUBSIDIARY)

COURSE CODE: MUT 328

COURSE UNIT: 2

DURATION: 4 Hours per week

GOAL: This course is designed to enable student acquire advanced skills in technical studies, perform their set pieces as well as develop sight reading skills in at least two musical instruments one which must be keyboard.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know keyboard concepts and skills.
2. Understand scales and arpeggios in major/minor keys.
3. Understand set pieces in major and minor keys.
4. Know usage of voices and the role of a singer.
5. Know voice exercise (VOCALISES) as laid out in GRADED SET PIECES.
6. Know the skills and intrinsic presentation of singing.
7. Know the principles of choral studies and performance techniques.
8. Understand breath control.
9. Know parts of musical instruments.
10. Understand single tongueing.
11. Know the phrasing of melodies.

General Objectives	Performance Objectives
1.0 Know keyboard concepts and skills.	On completion of this module, the trainee should be able to: <u>Keyboard Skills</u> 1.1 Finger fluently. 1.2 Play notes with speed and steadiness. 1.3 Sight read notes in succession. 1.4 Acquire varieties of touch-

2.0 Understand scales and arpeggios in major/minor keys.	legato, staccato, marcato, tenuto, etc.
	2.1 Change finger positions, extensions, construction, turning and crossing of fingers.
	2.2 Recognize types of motions (contrary and similar) ascending and descending.
3.0 Understanding set pieces in major and minor keys.	3.1 Explain historical background of set pieces.
	3.2 Recognize form and texture.
	3.3 Explain performance style and techniques.
	3.4 Play and interpret dynamics.
4.0 Know usage of voice training and the role of a singer.	<u>Singing</u>
	4.1 Explain the principles involved in voice production and management.
	4.2 Explain different organs of voice production, viz foundation structure and decoration through various factors.
5.0 Know voice exercise as laid out in GRADED SET PIECES.	5.1 Demonstrate the correct application of VOCALISES.
6.0 Know the skills and the histrionic presentation of singing.	<u>Singing Skills</u>
	6.1 Interpret signs and symbols in music.
	6.2 Sight read songs in diatonic scales system.

7.0 Know the principles of choral studies and performance techniques.	6.3 Perform simple choral pieces by various composers.
8.0 Understand breath control.	7.1 Acquire ensemble voice training for choral performance in group.
9.0 Know parts of musical instruments.	8.1 Demonstrate the correct breath control by sustaining notes to first 4 counts, 8, 12 and later to notes of longer duration.
10.0 Understand single tongueing.	9.1 Learn parts of the musical instruments.
11.0 Know the phrasing of melodies.	9.2 Draw and label the parts.
	9.3 Note the functions of the parts.
	10.1 Demonstrate tongueing on notes of the melodies.
	11.1 Play scales (one octave ascending and descending)
	11.2 Play melodies of not less than 16 bars.
	11.3 Memorize melodies learnt.

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: MUSIC TECHNOLOGY II (African Wind Instruments)
 COURSE CODE: MUT 329
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student understand the construction processes of a chosen wind instrument fabricate the components and assemble them for use.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Understand the construction processes of a chosen wind instrument e.g alghaita, kakaki, etc.
2. Know how to fabricate the components of a given wind instrument.
3. Understand how to assemble the fabricated components.

General Objectives	Performance Objectives
1.0 Understand the construction processes of a chosen wind instrument e.g alghaita, kakaki, etc.	On completion of this module, the trainee should be able to: <u>Construction and fabrication of Wind Instruments</u>
2.0 Know how to fabricate the components of a given wind instrument.	1.1 Explain the processes of constructing a chosen wind instrument. 1.2 Identify the materials used. 1.3 Play the instrument.
3.0 Understand how to assemble the fabricated components.	2.1 Select a chosen wind instrument for fabrication. 2.2 Fabricate a chosen instrument. 3.1 Assemble the components fabricated. 3.2 Play the chosen instrument constructed.

	3.3 Evaluate the performance of the constructed instrument.
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: ELECTRONICS
 COURSE CODE: MUT 410
 COURSE UNIT: 2
 DURATION: 3 Hours per week
 GOAL:

This course is designed to enable the student maintain and repair microphones, pick-ups and speakers wind electronic magnets in speakers and build detecting and rectifying simple amplifier fault, maintaining and repairing electronic organs and synthesizers.

GENERAL OBJECTIVE:

On completion of this module, the student should be able to:

1. Know the properties of magnet and magnetic line of force.
2. Know how to build speakers.
3. Know about amplifier.
4. Know about Electronic organ and synthesizers.

General Objectives	Performance Objectives
1.0 Know the properties of magnet and magnetic line of force.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Magnetism</u></p> <p>1.1 Define magnet and magnetic force, know about types of magnetic and polarity in magnet, know about properties of magnetic wave, know the uses of magnets.</p> <p>1.2 Explain the winding of electromagnets, different parts of cones and different parts of</p>

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: MUSIC AND THR ELECTRONIC MEDIA
 COURSE CODE: MUT 411
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student record and present music in the media, such as in their radio, television and films.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the techniques of recording music for the media.
2. Understand the techniques of presenting music in media houses.
3. Know how to repair basic audio and video equipment.
4. Know the care, maintenance and uses of basic audio and video equipment.

General Objectives	Performance Objectives
1.0 Know the techniques of recording music for the media. 2.0 Understand the techniques of presenting music in media houses. 3.0 Know how to repair basic audio and video equipment. 4.0 Know the care, maintenance and uses of basic audio and video equipment.	On completion of this module, the trainee should be able to: 1.1 Recognize the mechanical transmission of music. 1.2 Record music for the media. 2.1 Present music programmes on the radio and television. 2.2 Select different music types for various occasions and events. 3.1 Explain the basic principles of assembling video equipment. 4.1 Repair and maintain audio and video equipment.

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: APPLIED MUSIC TECHNOLOGY III (Common Faults in piano)
COURSE CODE: MUT 412
COURSE UNIT: 2
DURATION: 4 Hours per week
GOAL: This course is designed to enable the student carry general repairs on the keys and keyboards, actions, pedal systems, hammers, strings, etc.
GENERAL OBJECTIVE: On completion of this module, the student should be able to:
 1. Know how to detect common faults in piano.

General Objectives	Performance Objectives
1.0 Know how to detect common faults in piano.	On completion of this module, the trainee should be able to: <u>Faults in Piano</u> 1.1 Check the faults such as defect in key movement, gasping and clattering sound, broken strings, faulty dampers, torn or dried felts, damaged hammer sinking notes etc. 1.2 Select appropriate materials and change necessary parts. 1.3 Demonstrate how to use a stroboscope. 1.4 Demonstrate unison tuning in perfect fifths. 1.5 Test other essential parts of the piano. 1.6 Evaluate the tests carried out in 1.5 above.

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PROGRAMME: MUSIC TECHNOLOGY

COURSE TITLE: MUSIC TECHNOLOGY IV (Fabrication of Membranophones)

COURSE CODE: MUT 413

COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student carry out fabrications of trap set, tambourine and samba.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to fabricate musical instruments parts.
2. Know how to construct conical or cylindrical shaped instrument.

General Objectives	Performance Objectives
1.0 Know how to fabricate musical instruments parts.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Fabrication of Musical Instrument Parts</u></p> <p>1.1 Make drum sticks, fabricate tuning pegs, drum pegs, neck nut, bridges, levers, dampers and handles for the purpose of replacing damaged or worn-out instrument parts.</p> <p>1.2 Fabricate wooded keys, fretboard and fan braces for the purpose of replacement.</p> <p><u>Construction of Musical Instrument Parts</u></p>
2.0 Know how to construct conical or cylindrical shaped instrument.	<p>2.1 Construct frames for samba tambourines.</p> <p>2.2 Construct tambourine and cylindrical shells by glueing</p>

	<p>together calculated number of geometrically constructed solid-slabs.</p> <p>2.3 Construct samba glueing together the calculated number of the geometrically constructed split shapes.</p> <p>2.4 Play the tambourine or samba constructed.</p> <p>2.5 Evaluate the instruments constructed in drums of musical performance.</p>
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PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: MUSIC TECHNOLOGY V (Advanced Repair and Maintenance of Aerophones)
 COURSE CODE: MUT 414
 COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student repair and maintain metallic instruments e.g kakaki, saxophone, trumpet, horns etc

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to construct spare parts and carry out general overhauling of instruments.

General Objectives	Performance Objectives
1.0 Know how to construct spare parts and carry out general overhauling of instruments.	<p>On completion of this module, the trainee should be able to:</p> <p><u>Spare part Construction</u></p> <p>1.1 Fabricate pads, springs, screws, for the replacing damaged or worn out instrument parts.</p> <p>1.2 Make use of swabbing, oiling and selection of materials.</p> <p>1.3 Repair tone holes, tenons, corks, pistons and slides.</p> <p>1.4 Play the fabricated parts of the chosen instrument in 1.2 above.</p> <p>1.5 Describe the techniques involved in the repairs undertaken in 1.3 above.</p> <p>1.6 Play repaired saxophone, trumpet or horns.</p> <p>1.7 Evaluate the melodic sound of the repaired instruments.</p>

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PROGRAMME: MUSIC TECHNOLOGY

COURSE TITLE: ORCHESTRATION

COURSE CODE: MUT 415

COURSE UNIT: 2

DURATION: This course is designed to enable the student orchestrate a fairly long music for a mixed ensemble of woodwinds, bass, strings and percussions.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to score for winds.
2. Know how to score for Bands.

General Objectives	Performance Objectives
1.0 Know how to score for winds.	On completion of this module, the trainee should be able to: <u>Wind Score</u> 1.1 Score for winds of mixed ensemble. 1.2 Transcribe piano pieces for wind orchestra. 1.3 Score music of diverse genres: Hymns, anthems, Folk tunes etc, for wind orchestra.
2.0 Know how to score for Bands.	<u>Band Score</u> 2.1 Identify the instruments of a band. 2.2 Score piano music for a band. 2.3 Arrange folk tunes for a band. 2.4 Score hymns and anthems for a band.

PROGRAMME: MUSIC TECHNOLOGY

COURSE TITLE: COMPOSITION

COURSE CODE: MUT 416

COURSE UNIT: 2

DURATION: 4 Hours per week

GOAL: This course is designed to enable the student be versed in the techniques involved in composing music in western idioms.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to compose in free style.

General Objectives	Performance Objectives
1.0 Know how to compose in free style.	<p>On completion of this module, the trainee should be able to:</p> <p>1.1 Identify the different musical composing techniques in western idioms.</p> <p>1.2 Explain some of the techniques in 1.1 above.</p> <p>1.3 Describe one of the commonest techniques used.</p> <p>1.4 Evaluate the chosen techniques in 1.3 above.</p> <p>1.5 Compose medium sized works.</p> <p>1.6 Explain the methods used in the composition.</p>

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: PROJECT IN MUSIC TECHNOLOGY
COURSE CODE: MUT 417
COURSE UNIT: 4
DURATION: 7 Hours per week
GOAL: This course is designed to enable the student carry out a research under supervision on an aspect of Music Technology leading to the design and fabrication of a Musical Instrument that is acoustically, scientifically and musically functional.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to construct musical instrument.

General Objectives	Performance Objectives
1.0 Know how to construct musical instrument.	At the end of this module, the trainee should be able to: <u>Construction of Musical Instrument</u> 1.1 Design and construct a functional musical investment. 1.2 Write a technical report on the processed involved in the construction of a musical instrument.

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: FABRICATION OF ELECTRONIC INSTRUMENT
COURSE CODE: MUT 420
COURSE UNIT: 2
DURATION: 3 Hours per week
GOAL: This course is designed to enable the student construct/fabricate singularly or collectively an electronic musical instrument and write a technical report of the fabricated instrument.
GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to construct or fabricate an electronic guitar.
2. Know how to construct or fabricate an electronic guitar musical instrument such as an electric guitar.

General Objectives	Performance Objectives
1.0 Know how to construct or fabricate an electronic guitar. 2.0 Know how to construct or fabricate an electronic guitar musical instrument such as an electric guitar.	At the end of this module, the trainee should be able to: <u>Construction/Fabrication of Electric Guitar</u> 1.1 Construct/fabricate from an original or copied design of and electronic musical instrument. 2.2 Write a technical report on the processed involved in the making of the chosen instrument.

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: MUSIC AND THE ELECTRONIC MEDIA
COURSE CODE: MUT 421
COURSE UNIT: 2
DURATION: 2 Hours per week
GOAL: This course is designed to enable the student produce and present an original project.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to handle audio visual equipment for recording and presentation.
2. Know how to produce and present original project.
3. Know how to present an original project at the end of the course.

General Objectives	Performance Objectives
1.0 Know how to handle audio visual equipment for recording and presentation.	On completion of this module, the trainee should be able to: 1.1 Operate movie camara. 1.2 Operate still camara and develop firm. 1.3 Edit recorded programme. 1.4 Explain broadcasting methods.
2.0 Know how to produce and present original project.	2.1 Select a subject for production and presentation. 2.2 Understand the basic principles of collecting, data for a project. 2.3 Prepare an original project, to be supervised by the course lecturer.
3.0 Know how to present an original project at the end of the course.	3.1 Write an original project under the supervision of the course lecturer.

	3.2 Present an original project for assessment at the end of the course.
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PROGRAMME: MUSIC TECHNOLOGY

COURSE TITLE: PROJECT IN MUSIC TECHNOLOGY

COURSE CODE: MUT 417

COURSE UNIT: 4

DURATION: 7 Hours per week

GOAL: This course is designed to enable the student carry out a research under supervision on an aspect of Music Technology leading to the design and fabrication of a Musical Instrument that is acoustically, scientifically and musically functional.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to construct musical instrument.

General Objectives	Performance Objectives
1.0 Know how to construct musical instrument.	<p>At the end of this module, the trainee should be able to:</p> <p><u>Construction of Musical Instrument</u></p> <p>1.1 Design and construct a functional musical investment.</p> <p>1.2 Write a technical report on the processed involved in the construction of a musical instrument.</p>

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: APPLIED MUSIC TECHNOLOGY IV (COMMON FAULTS IN ORGAN)
COURSE CODE: MUT 422
COURSE UNIT: 2
DURATION: 4 Hours per week
GOAL: This course is designed to enable the student repair and service organ pipes, process seed, detect common faults, carry out general repairs on the keys and keyboards, actions, pedal systems.
GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know the techniques of repairing and servicing organs.

General Objectives	Performance Objectives
1.0 Know the techniques of repairing and servicing organs.	<p>At the end of this module, the trainee should be able to:</p> <p>1.1 Detect and rectify faults such as voicing the reeds, repair-below and wind chest. Repair the console, keyboard, switch stick, sound board, motors, rectify air humming, moaning sound, leakage rubbing wavering tone, dented pipes, trembling tones, etc.</p> <p>1.2 Check power supplied, rectificies, etc are test equipment check amplifiers, circuits, inter-manual couplers, combination of piston action, vibrator tremulant, expression control, percussion, sustain reverberation rhythm devices and resonators.</p>

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PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: MUSIC TECHNOLOGY V (Fabrication of Membranophone)
COURSE CODE: MUT 423
COURSE UNIT: 2
DURATION: 3 Hours per week
GOAL: This course is designed to enable the student fabricate hour-glass or conical drum.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know general description and evolution of the traditional instrument.
2. Know how to construct dumdum or beta drum.

General Objectives	Performance Objectives
1.0 Know general description and evolution of the traditional instrument.	At the end of this module, the trainee should be able to: 1.1 Recognize and select materials for the construction of the instrument.
2.0 Know how to construct <u>dumdum</u> or <u>beta</u> drum.	1.2 Process materials. 2.1 Fabricate components. 2.2 Assemble the parts. 2.3 Describe and demonstrate principles of sound production.

PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: MUSIC TECHNOLOGY (Advance repair and maintenance of Aerophonic instruments)
COURSE CODE: MUT 424
COURSE UNIT: 2
DURATION: 3 Hours per week
GOAL: This course is designed to enable the student fabricate wind instruments e.g alghaita, horns, etc.
GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to fabricate spare parts.
2. Know how to assemble the component parts.

General Objectives	Performance Objectives
1.0 Know how to fabricate spare parts.	At the end of this module, the trainee should be able to: 1.1 Fabricate different spare parts of kakaki and alghaita.
2.0 Know how to assemble the component parts.	2.1 Assemble the components parts. 2.2 Describe and demonstrate principles of sound production. 2.3 Explain the different sound produced. 2.4 Evaluate the sound produced by alghaita. 2.5 Analyze the different sound produced by kakaki and alghaita. 2.6 Account for the differences in 2.5 above.

PROGRAMME: MUSIC TECHNOLOGY

COURSE TITLE: COMPOSITION

COURSE CODE: MUT 425

COURSE UNIT: 2

DURATION: 3 Hours per week

GOAL: This course is designed to enable the student understand the techniques in composing music in African Idioms.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to arrange folk tunes for voices and instrument.
2. Know how to compose instrumental music.

General Objectives	Performance Objectives
1.0 Know how to arrange folk tunes for voices and instrument.	At the end of this module, the trainee should be able to: <u>Music Composition</u> 1.1 Arrange folk tunes for voices and instruments. 1.2 Identify the folk tunes for voices. 1.3 Explain the arrangement of folk tunes for instruments.
2.0 Know how to compose instrumental music.	2.1 Compose for instruments using call and response styles. 2.2 Compose in hocket style. 2.3 Explain the different compositions in hockets style. 2.4 Assess each composition in relation to a particular musical style other than 2.3 above.

PROGRAMME: MUSIC TECHNOLOGY
 COURSE TITLE: TECHNOLOGY AND SOCIETY
 COURSE CODE: MUT 429
 COURSE UNIT: 2
 DURATION: 2 Hours per week
 GOAL: This course is designed to introduce the student to a general knowledge of the historical developments and technological advancements, the responsibilities of a music technologist with the main focus being genuine technological development of a nation.

GENERAL OBJECTIVE:

On completion of this module, the student should be able to:

1. Understand the early development of technology.
2. Comprehend the history of modern technology.
3. Understand Technological development in Nigeria.
4. Understand the role of music technologist and the responsibilities to the community.

General Objectives	Performance Objectives
1.0 Understand the early development of technology.	On the completion of this module, the trainee should be able to: <u>Early Development of Technology</u> 1.1 Define the term technology. 1.2 Trace the history of engineering from the early Egyptian, Greek and Roman civilization. 1.3 Evaluate the contributions and problems of early Technology.
2.0 Comprehend the history of modern technology.	<u>History of Modern Technology</u> 2.1 Critically examine the concept of modern technology. 2.2 Trace the historical development of modern

	<p>civilizations.</p> <p>2.3 Evaluate events in the 16th and 17th centuries which made scientific enquiry a tool for technological development.</p> <p>2.4 Define and explain the term Industrial Revolution in Europe.</p> <p>2.5 Outline the lessons of the Industrial Revolution in Nigeria.</p> <p><u>Technological Development in Nigeria</u></p>
3.0 Understand Technological development in Nigeria.	<p>3.1 Explain early indigenous technology in Nigeria.</p> <p>3.2 Explain the influence of foreign technology on Nigeria indigenous technology.</p>
4.0 Understand the role of music technologist and the responsibilities to the community.	<p>3.3 State the main feature of Nigeria a National Policy on Technology.</p> <p>3.4 Evaluate the present state of technology in Nigeria.</p> <p>3.5 Analyze the advantages and disadvantages of importation of foreign expertise on music technology in Nigeria.</p> <p>3.6 Identify the problems of music technology in Nigeria.</p> <p>3.7 Suggest possible solutions to the problems in 3.6 above.</p>

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PROGRAMME: MUSIC TECHNOLOGY
COURSE TITLE: PROJECT IN MUSIC TECHNOLOGY
COURSE CODE: MUT 426
COURSE UNIT: 4
DURATION: 7 Hours per week
GOAL: This course is designed to enable the student carry out a research under the supervision of an aspect of Music Technology leading to the design and fabrication of Musical Instrument that is accoustically, scientifically and musically functional.

GENERAL OBJECTIVE: On completion of this module, the student should be able to:

1. Know how to construct musical instrument.

General Objectives	Performance Objectives
1.0 Know how to construct musical instrument.	At the end of this module, the trainee should be able to: <u>Construction of Musical Instrument</u> 1.1 Design and construct a functional musical instrument. 1.2 Write a technical report on the processed involved in the construction of a musical instrument.

LIST OF MINIMUM RESOURCE

LABORATORIES/WORKSHOPS

MUSICAL ACOUSTIC LABORATORY

S/N	ITEM DESCRIPTION	QUANTITY REQUIRED
1.	Frequency Analyzer	1
2.	Frequency Counter	1
3.	Sonometer	1
4.	Frequency Meter	1
5.	Sound Level Meter	1
6.	Tuning Fork	1 chromatic set
7.	Tape recorder	4
8.	Airconditioner	4
9.	Audio meter	1

MUSIC TECHNOLOGY WORKSHOP

S/N	ITEM DESCRIPTION	QUANTITY REQUIRED
1.	Musical Wire Gauge	1
2.	Piano Tuning Hammers	10
3.	Piano Action Regulators	3 sets
4.	Glue Pots	1
5.	Tuning forks and meters	1
6.	Screw Drivers	1 set

LISTENING CENTRE

S/N	ITEM DESCRIPTION	QUANTITY REQUIRED
1.	Tape recorder/CD player	4
2.	Head phones	4
3.	Record player	2

4.	Assorted records tapes/Cds	2,000
5.	Video/Television VCD	1 set

MUSIC PRACTICE ROOMS

S/N	ITEM DESCRIPTION	QUANTITY REQUIRED
1.	Practice Rooms	8
2.	Music Auditorium	1

LIST OF REQUIRED MUSICAL INSTRUMENTS

S/N	ITEM DESCRIPTION	QUANTITY REQUIRED
1.	Upright Pianos	10
2.	Scala Pianos	2
3.	Electronic Organ	1
4.	Reed Organ	2
5.	Grand Piano	2
6.	Violins	10
7.	Violas	5
8.	Cello	2
9.	Accoustic guitars	5
10.	Electric guitars	5
11.	Piccolo	2
12.	Flutes	3
13.	Trumpets	3
14.	Oboes	2
15.	Clarinetts	4
16.	Alte Sacophones	5
17.	Teno Sexaphones	4
18.	French Horn	2
19.	Trembones	1
20.	Bassom	1

21.	Tuba	2
22.	Recorders	2