# BHARATHIAR UNIVERSITY, COIMBATORE - 641046
## B.Sc AUDIO & MUSIC PRODUCTION
### (For the COP/CPP students admitted during the academic year 2015-2016 & onwards)

### SCHEME OF EXAMINATIONS: CBCS Pattern

| Part | COURSE TITLE | Inst hrs / week | Examination | | | | Credit |
|------|-------------|-----------------|-----|--------|-----------|-------|--------|
| | | | Dur | CIA $ | Uni. Exam | Total | |
| | **Semester 1** | | | | | | |
| I | Language - I | 6 | 3 | 25 | 75 | 100 | 4 |
| II | English - I | 6 | 3 | 25 | 75 | 100 | 4 |
| III | Core I - Creative Arts & Research Skills | 4 | 3 | 25 | 75 | 100 | 4 |
| | Core II - Studio Studies, Audio Electronics & Listerning Skills | 4 | 3 | 25 | 75 | 100 | 4 |
| | Core Practical I - Decibels & Ear Training | 3 | 3 | 40 | 60 | 100 | 4 |
| | Allied Paper I :Studio Fundamentals & Computer Applications in Music Technology | 5 | 3 | 25 | 75 | 100 | 4 |
| IV | Environmental Studies # | 2 | 3 | - | 50 | 50 | 2 |
| | **Semester 2** | | | | | | |
| I | Language – II | 6 | 3 | 25 | 75 | 100 | 4 |
| II | English – II | 6 | 3 | 25 | 75 | 100 | 4 |
| III | Core III - Musicmanship & Theory Studies | 5 | 3 | 25 | 75 | 100 | 4 |
| | Core Practical II– Studio tracking ( Analog Console) | 6 | 3 | 40 | 60 | 100 | 4 |
| | Allied Paper - II Digital Audio Workstation & MIDI | 5 | 3 | 25 | 75 | 100 | 4 |
| IV | Value Education – Human Rights # | 2 | 3 | - | 50 | 50 | 2 |
| | **Semester 3** | | | | | | |
| I | Language –III | 6 | 3 | 25 | 75 | 100 | 4 |
| II | English-III | 6 | 3 | 25 | 75 | 100 | 4 |
| III | Core IV –Acoustics & 3D Sound | 4 | 3 | 20 | 55 | 75 | 3 |
| | Core V - Studio Tracking ( Digital) Theory & Practical | 5 | 3 | 25 | 75 | 100 | 4 |
| | Allied Paper – III - Practical  – DAW/MIDI | 4 | 3 | 40 | 60 | 100 | 4 |
| IV | Skill based Subject: 1 Computers in Communication media -I | 3 | 3 | 20 | 55 | 75 | 3 |
| IV | Tamil @ / Advanced Tamil # (or)  Non-Major Elective- I (Yoga For Human Excellence) # / Women's Rights #/Constitution of India# | 2 | 3 | 50 | | 50 | 3 |
| | **Semester 4** | | | | | | |
| I | Language –IV | 6 | 3 | 25 | 75 | 100 | 4 |
| II | English-IV | 6 | 3 | 25 | 75 | 100 | 4 |
| III | Core VI –Music Technology in Context | 4 | 3 | 25 | 75 | 100 | 4 |
| | Core VII Marketing & Promotion & Social Media in Music Industry | 4 | 3 | 25 | 75 | 100 | 4 |
| | Allied Paper IV - Advanced MIDI | 5 | 3 | 25 | 75 | 100 | 4 |

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|---|---|---|---|---|---|---|---|
| IV | Skill based Subject: 2 Audio Post Production with Computers | 3 | 3 | 20 | 55 | 75 | 3 |
| IV | Tamil @ / Advanced Tamil # (or)  Non-Major Elective- II (General Awareness) # | 2 | 3 | 50 | | 50 | 2 |
| | **Semester 5** | | | | | | |
| III | Core – VIII Vocal Production | 6 | 3 | 25 | 75 | 100 | 4 |
| III | Core – IX Live Sound for Small Venues Including Acoustics | 6 | 3 | 25 | 75 | 100 | 4 |
| III | Core Practical III –Mixing & Mastering | 6 | 3 | 40 | 60 | 100 | 4 |
| III | Elective I : | 5 | 3 | 25 | 75 | 100 | 4 |
| IV | Skill based Subject: 3 Production of Advertisement Jingles for Radio, Online, Ringtones for Mobiles, Presenting & Promotion of concepts | 3 | 3 | 20 | 55 | 75 | 3 |
| | **Semester 6** | | | | | | |
| III | Core – X Advanced Audio Post Production | 6 | 3 | 25 | 75 | 100 | 4 |
| | Core – XI Employability Skills Industries | 4 | 3 | 25 | 75 | 100 | 4 |
| | Core Practical IV - Short film / Documentary | 2 | 3 | 40 | 60 | 100 | 4 |
| | Elective II : | 5 | 3 | 25 | 75 | 100 | 4 |
| | Elective III : | 5 | 3 | 25 | 75 | 100 | 4 |
| IV | Skill based Subject 4: Practical Music Producing & Arrangement | 3 | 3 | 30 | 45 | 75 | 3 |
| V | Extension Activities @ | - | - | 50 | - | 50 | 2 |
| | | | | | **Total** | 3500 | 140 |

$ Includes 25% / 40% continuous internal assessment marks for theory and practical papers respectively. @ No University Examinations. Only Continuous Internal Assessment (CIA)

# No Continuous Internal Assessment (CIA).Only University Examinations.

| List of Elective Papers ( Colleges can choose any one of the paper as electives) | | |
|---|---|---|
| **Elective –I** | A | Basic Music Production & Arrangement |
| | B | Interactive Audio Introduction |
| | C | On-Location Recording & Sound Editing |
| **Elective –II** | A | Advance Music Production & Arrangement Techniques |
| | B | Musicmathics |
| | C | Sound Design & Aesthetic Development |
| **Elective –III** | A | Processing Mixing & Mastering Techniques |
| | B | Sound for Video Games |
| | C | Film Re-recording & Mixing |

## SEMESTER -I
## Core Paper I – CREATIVE ARTS REASEARCH SKILLS

**UNIT I** : Be able to select effective methods and techniques for undertaking research activities
Research methods ; Internet and digital resources; Conducting/interpreting market research; Critical review ; performance/production or score analysis -Contextualising the area of research ;Applying appropriate referencing techniques.

**UNIT II**: Understand the validity of appropriate research material from primary and secondary information sources
Organisation Standards ; Primary sources of evidence eg first editions, autographed scores, live performance ; Secondary sources of evidence ;  evidence eg publications, referenced texts, archives, reviews,Historical/social/cultural documentation.

**UNIT III**: Be able to formulate critical opinions on a selected research subject
Formulation: critical evaluation of sources; Synthesis/interpretation of data; Critical thinking; Objectivity; Identification of target audience; Presentation of viewpoint ; Methodology ; Balance between text and other forms.

**UNIT IV**: Be able to present outcomes based on research using a recognised format
Format: suitability evidence eg publications, referenced texts, archives, reviews, ;  PC-based (PowerPoint etc) ;Websites ;Digital journals ;Social networking ;Prototype designs ;Saleable projects ;Scores ;Texts ;Production design.

**UNIT V**: Be able to present outcomes based on research using a presentation methods

Presentation methods: context ; written texts ; verbal presentations ; recordings ; performances ; demonstrations and workshops.

## CORE –II – STUDIO STUDIES,
## AUDIO ELECTRONICS & LISTENING SKILLS

**UNIT I: INTRODUCTION TO AUDIO I**
What is sound? ; Various domains that sound can exist in : Acoustic, mechanical and electrical; basics of sound wave propagation – source ; Medium perceiver Basics of sound wave propagation ; Frequency – unit of measurement ; Wavelength calculation.

**UNIT II: INTRODUCTION TO AUDIO II**
Characteristics of the frequency bands within the audible spectrum, amplitude – unit of measurement ; Introduction to dynamic range;Peak vs RMS ;Simple and complex waveforms; Noise types and test tones; Basic acoustics problems in room

**UNIT III: BASIC AUDIO ELECTRONICS**
Introduction to Electricity: Structure Of Atoms;Unit Of Charge; Production of Electricity by Friction, Resistance ; Resistors ; Resistances In Series And Parallel ; Work, Power And Energy. Use of Wattmeter, Calculation of Electrical Energy and Power Local Tariff system

## UNIT IV: ADVANCED AUDIO ELECTRONICS

Electromagnetism and Magnetism ; Simple Phenomenon of Magnetism; Ferromagnetic Properties ; Magnetic Flux Density ; Electromagnetic Induction ; Elementary Electrostatics ; Capacitive Reactance; Simple A.C. Circuits ; Transformer. Transformer. Principle Of The Single-Phase Transformer, And Iron Loss (Hysteresis And Eddy Current).;

## UNIT V: STUDIO PROTOCOL

Brief history of recording; Then and Now: What is a stereo image?; Phantom Centre ;Basic audio signal path within astudio ; Audio equipments used; Talk Back And Headphone Ques; Basic Audio Signal Path Within A Studio – Microphone To Pre-Amp To Loudspeaker Broad Classification of microphones used in the industry.

## RECOMMENDED READINGS :

1. Yamaha-Sound Reinforcement Handbook

2. The Theory of Sound: J.W.S. Rayleigh / Robert B. Lindsay

3. Audio Engineers Reference Book: Michael Tabolt Smith

4. Sound System Engineering: Carolyn Davis / Don Davis

5. Handbook for Sound Engineering: Glen Ballon

### Allied Paper- I  - STUDIO FUNDAMENTALS & COMPUTER APPLICATIONS IN MUSIC TECHNOLOGY

## UNIT I: TAPES & MULTITRACK

Introduction :Magnetism : Basic recording signal flow & layout: Magnetic  Tapes : Operations of the record head  History of Tapes and MTR ; MTR features and specification. Recording & Using Time Code + Auto Locator ; Noise Reduction; Tape Storage/Erasing; Tape Based Effects; Tape Recorder Brands;

## UNIT II: AUDIO CABLES & INTERCONNECTION

Introduction to Cabling;Balanced And Unbalanced Audio ; Wire Gauge ; Types Of Conductors ; Factors That Effect Audio Signals ; Jackets And Insulators ; Emi And Rfi – Causes And Effects Direct Injection Box;Special Cables – Snake, Y-Cable, Headphone Cable, Forward Referencing; Patch-bay ; Soldering. Detailed Illustrated Cabling Setup

## UNIT III: EFFECTS AND DYNAMIC SIGNAL PROCESSORS

Need For Audio Signal Processing; Frequency Based Processors; Dynamic Processors – Analog and Digital ; Effects – Fx Processors; Time Based Fx.

## UNIT IV: MICROPHONES

Introduction To Microphones; Detailed Illustrated Cabling Setup; Phantom Power in Microphones;Microphone Specifications; Mic Pre-Amps; Directional Response ; Microphone Accessories – Shock Mount – Stands – Air Velocity Filters – Pop Filter. Wire Less Microphones – Diversity Reception; Microphone Cables – Brands And Features

## UNIT V: MIKING TECHNIQUES

Miking Techniques; Stereo Miking Techniques; Miking A Cabinet Loudspeaker – DI Split; Introduction To Soundfield Microphones – Surround Miking; Microphone Considerations – Brands, Models And Specifications.

## RECOMMENDED READINGS :
1. Yamaha-Sound Reinforcement Handbook
2. The Theory of Sound: J.W.S. Rayleigh / Robert B. Lindsay
3. Audio Engineers Reference Book: Michael Tabolt Smith
4. Teach Yourself Electricity & Electronics; Stan Gibilisco
5. Electronics for Dummies: Gordon McComb / Earl Boysen

## CORE PRACTICAL- I  - DECIBELS & EAR TRAINING

## UNIT I: INTRODUCTION TO DECIBELS

ntroduction to Decibels; Logarithmic nature of the Ears Perception of Loudness ; Logarithms – Basic Operations ; Decibels – Evolution, Applications (Electrical/Acoustic) ; Power Calculations & Rules; Voltage Calculations & Rules.

## UNIT II: HEARING FUNDAMENTAL

Threshold of Hearing and Pain ; Sound Power Level ;  Inverse Square Law ; Sound Intensity Level ; Sound Pressure Level ; Loudness – Phon Curves And Weighting Curves  Adding Sounds Together ;  Adding Db ;  Spl Measurement; Noise Measurements – Nc & Nr ; Dbm, Dbu, Dbv.

## UNIT III: SIGNAL & EQUIPMENT TESTING & ANALYSIS

Signal Parameters - Calculation and Standards;  Metering ; Analog Metering;  Digital Metering ; Meter Brands ; Intro to Signal Analysis and Advanced Metering Techniques ; Equipment Testing and analysis products.

## UNIT IV: UNDERSTANDING HUMAN EAR

Human ear – functions; psychoacoustic phenomenon ;Binaural localisation ;Haas Effect ;Doppler Effect ;Masking and Cocktail-party Effect ; Introduction to Phon – Phon curves.

## UNIT V : EAR TRAINING

Ear training; Technical Ear Training – Isomorphic Mapping, Increasing Awareness, Increasing Speed of detection; Shaping Sound; Sound Reproduction System Configuration

## RECOMMENDED READINGS :
1. Yamaha-Sound Reinforcement Handbook
2. Acoustics & Psychoacoustics: David Howard / Jamie Anqus (Focal Press)
3. Fundamentals of Hearing:     William A. Yost
4. Sound System Engineering: Carolyn Davis / Don Davis
5. Handbook for Sound Engineering: Glen Ballon

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**SEMESTER –II**
**CORE –III - MUSICMANSHIP& THEORY STUDIES**

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**UNIT I: MUSIC THEORY**
Major Scales;Natural Minor Scales And The Concept Of Relative Keys; Harmonic Minor And Melodic Minor Scales; Key Signatures; Intervals ; Chords Built From Major Scales; Note Duration; Triplets, Dotted Note Duration; Beat, Bar, Meter; Time Signature

**UNIT II: MUSIC HISTORY**
Brief History of Musical Instruments ; Different Eras of Music – Western & Classical;  Social Background, Characteristics and Classification (Genres) ; Different Eras of Western Classical Music -Musical Styles , Famous Composers & Compositions of Different Era.

**UNIT III: MUSIC LAW**
Introduction ; Copyright And Mechanical Royalties; Mechanical Royalties And Licensing; Performance Royalties And Pros; Berne Convention ; Poor Man's Copyright; Copyright Infringements And Penal Code.

**Unit IV : MUSIC BUSINESS**
Music Business – Marketing As An Artist; Creating A Professional Profile ; Distribution Fundamentals ; Funding a Music Project ; Distribution Deal Types ;  Licensing Income.

**UNIT V: RESEARCH TECHNIQUES FOR CREATIVE INDUSTRY**
Methods & type of research; Undertaking Interviews; Critical Review ; Selecting suitable methodologies ; Contextualising the area of research ; Validation of appropriate research material ; Research Format; Presentation methods.

**RECOMMENDED READINGS** :
**1.**  The Complete Idiot's Guide to Music Theory: Michael Miller
**2.**  All you need to know about Music Business: Donald S. Rassman
**3.**  Sheet Music: Kevin Leman
**4.**  A History of Western Music: Donald J. Gront
**5.**  The Complete Idiots Guide to Music Composition: Michael Miller

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**CORE PRACTICAL –II - STUDIO TRACKING (ANALOG CONSOLE)**

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**UNIT I:**
Introduction to Consoles and its Purpose; Console Formats – Inline And Split; I/O Section – Rear Panel Details.

**UNIT II:**
Signal Flow; Channel Strip; Auxillary – Application – Pre/Post; Eq – Application – Parameters; AFL/PFL – Application; Panoramic Potentiometer; Bus – Assignment [Application, Routing]; L/R Assignment – Odd Even Rule.

**UNIT III :**
Mix B Section – Application,Routing; Master Section in Detail – Rear Panel ; Aux Masters;Sub Masters; Solo Section; Control Room Section – Loudspeaker Management; External Inputs. **;** Headphone Cues – Routing**;** Metering [I/O And Master] – Meter Bridge Types**;**

**UNIT IV:**
Analog Console Specifications – Dynamic Range Of A Console; Overview of Music Production Consoles. Consoles [Overview – Mackie Onyx 32.8 And Neve 88 R]

**UNIT V:**
Students have to record a song with minimum 8 Tracks present in it. The assignment has to be do be done in the Analog Studio using the Analog Console**.**

## ALLIED PAPER –II -  DIGITAL AUDIO WORKSTATIONS & MIDI

### UNIT I: DIGITAL TECHNOLOGY FUNDAMENTALS
Analog Vs Digital: A Comparison ; ADC , DAC ; Nyquist Theorem; Sampling Rate; Bit Depth; Anti-Aliasing Filter; Signal to Error Ratio; Dither ; Quantization Error; ErrorCorrection. In Digital Audio; Non Zero Energy : Zero Crossing; Editing Guidelines; Recommended Audio/Midi Interfaces

### UNIT II: DIGITAL RECORDING FORMATS
Digital Recording Formats; CD ; DVD ; DAT ; ADAT ; Blue-Ray Disc; Spars Code; Digital Audio Tape; Absolute Time; Skip Ids;  Material Of Tape; Mini Disc; Adaptive Transform Acoustic Coding (Atrac); Shock Proof Memory; Mini Disc Specifications.

### UNIT III: DIGITAL AUDIO WORKSTATION
Introduction To Daw; Digital Audio Requirements; Daw Workflow; Arrangement/Sequencing And Mixer Overview; Audio Editing Concepts; Multichannel Recording; Creative Automation And Automation Modes- Types Of Hard Disks; Concepts In Hard Disk Recording
.
### UNIT IV: MIDI
Introduction To Midi Applications [Studio, Av, Live, Visuals, Multimedia& Phone; History of Midi;  Midi Channels; Midi Connections Signal Flow ; Midi Echo – Cable Length Limitations; Midi Modes; Midi Messages – Channel And System Messages; Channel Voice Messages.

### UNIT V: SAMPLING & SYNTHESIS
Introduction To Sampling Software Samplers ; Definition Of Synthesis – An Introduction – Brief History; Application Of Synthesis – Music Production And Sound Design For Film. Applications [Studio, Av, Live, Visuals, Multimedia& Phone ; Digital Synthesis Disciplines – Puredata, Cycling 74 Max Msp

**RECOMMENDED READINGS :**
1. Principles of Digital Audio: Ken C. Pohlmann
2. Art of Digital Audio; John Watkinson
3. Digital Audio Explained: Nika Aldrich
4. Users' Guide to Sound Synthesis with VST Instruments: Simon Millward
5. MIDI Power: Hal Ceonard
6. The MIDI Manual: David Miles Huber
7. Basic MIDI: Paul White
8. The Guide to MIDI Orchestration: Paul Gilreath
9. Sound Synthesis and Sampling: Martin Russ

## SEMESTER –III
## CORE –IV – ACOUSTICS & 3D SOUND

### UNIT I: INTRODUCTION TO ACOUSTIC DESIGN AND SOUND THEORY
Introduction – Aesthetic and Technical ; Various Audio Production Facilities ; Infrastructureand Considerations – Building – Pillars ; Acoustic Problems – Noise Leakage, Internal Noise Sources, Room Resonances, Flutter Echoes,Acoustic Terminology [Sac, Nrc, Stc, Stl] ; Reverb Time.

### UNIT II: ACOUSTIC CONSTRUCTION TECHNIQUES/ELECTRICAL CALCULATIONS AND WIRING/HVAC CALCULATION AND INSTALLATION
Acoustic Shell Construction, Control Room, Recording Studio, Machine Room, Equipment Room, Sound Lock, Air Conditioning – Ducted – Split – Acoustic Considerations, Electricals – Wiring From Main Distribution Unit, Construction Concepts ; Practical Design - Concrete Shell , Control Room [Rfz], Recording Room, Equipment Room, Machine Room And Sound Lock.

### UNIT III: ACOUSTIC TREATMENT AND ROOM TUNING
Room Resonances ; Choosing Correct Dimensions – Spemeyer's Ratio ; Reverb Treatment, Absorbers, Diffusors – QRD And PRD ; Diffusion ; Panel Resonators, Helm Holtz Resonators ; Early Reflection Control. Controlling Frequencies Above And Below Schroeder's Frequency – Cf

### UNIT IV: 3D SURROUND SOUND I
Introduction to DTS Stereo, 5.1 ; Dolby 5.1; Basic 5.1 workflow &signal path (Gear + Routing) ; Dolby & DTS playback In theatres ; Dolby & DTSon consumer media (Other multichannel formats) ; Dolby & DTSin broadcast, 6.1 – Es & Ex.

### UNIT V: 3D SURROUND SOUND II
Multichannel for future formats ; SDDS ;  Multichannel on headphones, Multichannel game sound, Pseudo surround systems, Multichannel miking using Mono/Stereo mics, Surround sound mics, Virtual instruments supporting multichannel.

### RECOMMENDED READINGS :
1.      Fundamental of Acoustics: Lawrence E. Kinsler
2.      Acoustics Design for Home Studio: Mitch Gallagher
3.      Surround Sound, Up and Running: Tomlinson Holman
4.      Master Handbook of Acoustics: Alton Everest

## CORE –V  -  STUDIO TRACKING – (DIGITAL)- theory & practical

### UNIT I: DIGITAL AUDIO CONSOLE
Introduction to digital audio consoles; Classification of consoles; Basic features + Signal Flow within a Console; High End Format – Large Setup ; Home Recording Setups Apogee, Focusrite, Pre Sonus, Motu, Avid , Steinberg;; Control Surfaces.

### UNIT II: INTRODUCTION TO TIMECODE AND SYNCHRONIZATION
Need for Synchronization; History; Pulse Synchronization methods; Timepiece & Synchronization; Open Loop Systems; Closed Loop Systems; LTC ; VITC (Signal Structure & Application); MTC (Signal Structure & Application)'

## UNIT III: SYNCHRONIZATION TECHNIQUES
Refreshing, Jam Syncing, Reshaping; Midi Clock; Machine Control – MMC& Sony 9 Pin; Syncing to an ATR ; Syncing to a DAW; Syncing to a MDM ; Syncing to akeyboard; Syncing to video device; Syncing on location.

## UNIT IV: MASTERING
What Is Mastering?;Brief History – The Vinyl Disc ; Mastering Facility Orientation – The Room – The Equipment; Mastering – The Signal Path; Mastering Eq And Compressor Brands (Hardware And Softwares); Mastering in a DAW.

## UNIT V: PRACTICALS &  ASSIGNMENT
24 Track Critical Log Book  I 24 Track Competency
24 Track Multi-track Recording & Mixdown Assignment .

## RECOMMENDED READINGS :
1. Principles of Digital Audio: Ken C. Pohlmann
2. Art of Digital Audio; John Watkinson
3. Digital Audio Explained: Nika Aldrich
4. Time Code: A User's Guide : J. Ratchiff
5. Mastering Audio: Bob Katz
6. The Mastering Engineers Handbook: Bobby Owsinsky

## ALLIED PAPER III - PRACTICAL - DAW/ MIDI
**Digital Audio Workstation Assignment**

Students have to do a radio edit of track using Avid Pro-Tools/Apple Logic Pro. Students have to time-correct some tracks in a session and also have to mix the session using effects processors and necessary .

**MIDI ASSIGNMENT**

Students have to program a track with minimum of 8 tracks in it using Logic Pro.      Students have to use only midi instruments and midi loops for programming. Students have to synthesize a fat lead tone using Subtractor in Reason. Students have to sample a drum kit using NNXT sampler in Reason

## SKILL BASED SUBJECT -I – COMPUTERS IN COMMUNICATION MEDIA -1

### UNIT I
Introduction to computers – History and generation of computers- Basics of computers –Hard ware & Soft ware -Operating systems.

### UNIT II
Multimedia – evolution, applications and advantages, hardware & software requirements. Application of computers in the media industry.DTP (Desk Top Publishing).

### UNIT III
MS Office and its applications- MS Word – tools, word processing techniques, MS Excel – features & utility- PowerPoint- features & advantages. Quark Xpress – features, tools & applications.

PageMaker- working with text, working with graphics & formatting.Differences in features of Quark Xpress and Page Maker.

**UNIT IV**
Corel Draw- features & tools, working with vector/raster images, special effects and other supporting components of CorelDraw.

**UNIT V**
Adobe Photoshop- features & tools, drawing, painting, cropping, editing, retouching, special effects, animation using image ready, optimization for web.

**RECOMMENDED READINGS** :
1.MS Office 2000 for windows for Dummies, Wallace Wang & Roger Parker, IDGBooks, 2000.
2. MS Office – Bible, Edward Willet, IDG Books, 2000.
3. PageMaker for Windows for Dummies, Deke Mc Celland, IDG Books, 1998.
4. Corel Draw for Dummies, Deke Mc Celland, IDG Books, 1997.
5. Photoshop for Dummies, IDG Books, New Delhi, 2000.
6. Teach Yourself Photoshop, Jennifer Alspach & Linda Richards, IDG Books, New Delhi, 2000.
7. Multimedia: An Introduction by John Villamil & Louis Moloina Prentice Hall, New Delhi, 1998.
8. Multimedia – Making it work, Tay Vaughan, Mc Graw Hill, NewYork, 1998.
9. The Ultimate Multimedia Handbook, J. Keyes, Mc Graw Hill, NewYork,2000.


**SEMESTER –IV**
**CORE VI – MUSIC TECHNOLOGY IN CONTEXT**

**UNIT I**
Study on the art of record production, from tapes, vinyls to CDs ; Digital technology in contemporary music making ; Analog gear in a digital age ; Research on topics w.r.t. an album production.

**UNIT II**
Study of musicians, visionaries and their contributions towards modern age music. (in terms of music technology). Influence of music in the society ; A study on the advancement of technology made in the field of marketing and delivering music to the common man.

**UNIT III**
Creative field recordings;A brief study on aural architecture and acoustic architecture, it's differences ; Data mining in music ; Database management in music.

**UNIT IV**
The shift to bits; computers in music  what we lost and what we gained
Control of the medium; home taping, DRM, streaming, piracy, remix culture and patents Music: Product or process? Ideal forms and instantiations in sound art

**UNIT V**
DAW framework ; Plugin framework ; Invention and impact of moog synthesizer ; History of granular synthesis and the impact on modern day composition ; Plugins v/s Analog hardware. Research on the practice of plugins and hardware in the industry and the preference.

**PROJECT SUBMISSION**(The following broad parameters to be covered)
- Research, assimilate and synthesise complex information relating to key technological and artistic developments in the history of recorded music;
- Situate developments in music technology in a broader sociopolitical context;
- Relate current practice and technology to historical developments in audio recording;
- Synthesise and communicate concepts and information related to the historical development of music technology via a multimedia report.

## CORE –VII– MARKETING & PROMOTION &SOCIAL MEDIA IN MUSIC INDUSTRY

**UNIT I**
Importance of marketing ;  Key marketing terms and concepts-  need, want, demand, exchange ; marketing myopia and marketing orientations ; Distinction between selling and marketing ; Marketing Mix, 4Ps, 7Ps, 4Cs.

**UNIT II**
Marketing Research: Definition ; Marketing Research Process ; Types of Research: Primary, Secondary, Qualitative, Quantitative.

**UNIT III**
Consumer Behaviour : Introduction and importance ;Model of consumer behaviour ; Characteristics affecting consumer behaviour.

**UNIT IV**
Segmentation -  Bases and process of segmentation ; Targeting-  Evaluating market segments, selecting target market segments ; Positioning-  Positioning maps, differentiation and positioning strategy, communicating and delivering the chosen position.

**UNIT V**
The art of creating attractive packaging for the end product and a media plan to promote the same in the mass market.  Managing the internet and social Media. Vendor selection and management, Media Planning & Buying

**RECOMMENDED READINGS :**
1. Competing For The Future By C.K. Prahalad & Gary Hamel.
2. Kotler on Marketing: How to Create, Win, and Dominate Markets By Philip Kotler.
3. How to Win Friends and Influence People By Dale Carnigie.
4. Market Research: A Guide to Planning, Methodology and Evaluation By Paul Hague.
5. Art of War By Sun Tzu.
6. Strategic Management By Gregory Dess, Lumpkin & Taylor.
7. How Winners Sell: 21 Proven Strategies to Outsell Your Competition and Win the Big Sale ByDave Stein.
8. Selling the Invisible: A Field Guide to Modern Marketing By Harry Beckwith.
9. MarketingServices:CompetingThroughQualityByParasuraman&LeonardL.Berry.
10. MarketingManagement(12thEdition)(MarketingManagement)ByPhilipKotler.
11. ConsumerBehavior:BuildingMarketingStrategy,9/e,(withDDBNeedhamDataDisk)ByHawkins,Best,&Coney.

## ALLIED PAPER –IV – ADVANCED MIDI

### UNIT I: ADVANCED- MIDI
MIDI hardware and Pin connections;MIDI setup and Daisy chaining;MIDI message structure; Pitch Bend, Control Change, Running status Messages;Active sense;MIDI effects, Quantization, etc.;MIDI file formats.

### UNIT II: ADVANCED- SYNTHESIS -I
History of synths;Moog synths;Fourier Analysis and synthesis;Types of Basic Waveforms;Types of synths;Software Synths;Additive synthesis;Subtractive synthesis;Granular synthesis;Amplitude modulation synthesis.

### UNIT III : ADVANCED SYNTHESIS -II
Frequency modulation synthesis;Physical Modeling;Wavetable Synthesis;Phase distortion;Wave shaping;Vector Synthesis;Wave Sequencing;Oscillator and LFO;Envelope Generator;Envelope Tracking;Slew; VCO & DCO; CV and GATE.

### UNIT IV: ADVANCED- SAMPLING -I
Overview and Evolution of Sampling;Sampling Methods and digital technology; Zero crossing; Splits; LFO for Vibrato/tremolo; Synth vs. Samplers; Hardware Vs. Software samplers.

### UNIT V: ADVANCED SYNTHESIS -II
Concepts of on-location sound recording using hand-held recorder; Concept of noise cleaning; Advanced concept of ADSR curve; Advanced concept of filters used in sampling; Advanced concept of ADSR curve  Pitch shifting the sample.

### SUGGESTED READING:
1. Principles of Digital Audio: Ken C. Pohlmann
2. Art of Digital Audio; John Watkinson
3. Digital Audio Explained: Nika Aldrich
4. Users' Guide to Sound Synthesis with VST Instruments: Simon Millward
5. MIDI Power: Hal Ceonard
6. The MIDI Manual: David Miles Huber
7. Basic MIDI: Paul White

## SKILL BASED SUBJECT -2  – AUDIO POST PRODUCTION WITH COMPUTERS

### UNIT I:
Sound for film; Production sound ; noise reduction of post production dialogues; Dialogue editing ;Foley – Types of Foley ; SFX creative editing – layering SFX ; Sound Designing ; Music edits for commercials; Music for television.

### UNIT II:
Introduction to Electromagnetism; A wireless system ; Radio frequency spectrum + frequency allocation  (int/nat); AM technology ; C quam ; Shortwave, medium wave & long wave; Fm technology. Digital TV broadcasting, Wireless Microphones , Satellite Phone

**UNIT III:**
Intro to data compression ; Psychoacoustic coding; History of mpeg ; Digital rights management;Real time broadcasting ; Embedding, Streaming audio in your webpage; Mpeg video compression – various formats; Lossless audio technology ; Non-compression.

**UNIT IV:**
Introduction to studio monitors;  Loudspeaker specifications;  Bass reflex ; Multi-driver system – woofer & tweeter; Dual concentric design ; Enclosure design and imaging; Crossovers ; Ribbon drivers.

**UNIT V:**
Loudspeaker impedance; Near field and far field monitors; Floor standing monitors and sub woofers; Setting up monitors ; Amplifiers and speaker matching; Head phones – types. Budget stereo monitors – recommendations [ production tips]

**RECOMMENDED READINGS :**
1. Guide to Post Production for TV and Film: Barbara Clark
2. Audio Post Production for TV and Film: Hilary Wgatt
3. Post Production in your home studio: Casay Kim
4. A Broadcasting Engineering Tutorial: Graham A. Johnes
5. The Radio Station: Michael C. Reith
6. Radio Production: Robert McLeish
7. Streaming Audio: Jon Luini


**SEMESTER –V**
**CORE VIII – VOCAL PRODUCTION**

**UNIT I**
Overview of vocal styles in different genres of music;Vocal ranges of different singers.i.e. male and female.

**UNIT II**
Editing concepts of vocals; Elements of vocal development; Inflection, Phrasing, Mood, Energy, Pausing & Emphasis, Voice Culture, Concepts of EQ for different kind of vocal styles; Concepts of Dynamic Processing for different kind of vocal styles; Vocal Processing using iZotope Nectar.

**UNIT III**
Elaborate concepts of different modules of iZotope Nectar; Breath Control, Harmony Module, Pitch Editor, FX module.

**UNIT IV**
Concepts of effects processing in vocal processing; Using Reverb, Delay etc. in vocal processing.

**UNIT V**
Pitch Correction techniques in Vocal Processing; Different software for pitch correction; AutoTune, Melodyne, Waves Tune And Izotope Nectar; Avoiding artefacts while pitch correction.

## CORE PRACTICAL -III – MIXING & MASTERING

### UNIT I
Introduction to the module; Assessments explanation; Introduction to mixing; Mixing concepts, Effects, Bussed and Inserts, Preand Postfaders; Process of mixing; Analysis of commercial tracks; Objectives of mixing. Discuss the choice of software

### UNIT II
Dynamic Processors (software) ;Explain the functions of compression ; Compression for creative and corrective uses ; Mix bus compression; pros and cons. Recap Compressors and EQ and their application; Different techniques/styles of their use; Use of pitch/time shift; Automation and Comping;

### UNIT III
Timebased effects; Review mechanical reverberation systems (software);Logic's Space Designer; Editing paradigms and methods; Critical review of the tools in Logic Pro and Pro Tools; Automation; Comping; Time manipulation tools.

### UNIT IV
Audio engines and mix buss summing; Monitoring; Analysis methods; Metering, phase cancelling, listening environments; Arrangement; Analysis with reference to spectral mixing. Explain the record production process, including the relationship between mixdownand mastering; Review the requirements of mastering engineers, and consider how to prepare the mixfiles for mastering

### UNIT V
Mastering; Assembly editing; Sweetening;EQ Technique Output; Tube vs. solid state electronics; Quality Digital & Analog Processing;; Creating Space; Phasing Problems; Alternate Mixes; TC Finalizer; Dither; Baril language.

### PRACTICALS

### MIX ANALYSIS
Students will be given two commercial mixes to be critically evaluated. They should reflect on the processes that have been used to create the finished tracks. Their reflections and analyses should then be related to their own mixing and production techniques in terms of past, present and future practice.

### PRACTICAL MIX DOWN
You will be given the raw multitracks of two songs, each approximately 4–5 minutes long. You need to choose one of the tracks to mix. The mix should make use of the techniques you have learnt in this module, including the correct use of processing and effects.

### RECOMMENDED READINGS :
1. Zhaki, R., 2011. Mixing Audio: Concepts, Practices and Tools,2nd ed. Focal Press. Production, 2nd Revised ed. artistpro.com LLC.
2.White, P., 2003. Creative Recording Part One: Effects and Processors,Sanctuary
3. Collins, M., 2011. Pro Tools 9: Music Production, Recording, Editing, and Mixing,Focal Press Everest, F.A., 2005.
4. Critical Listening Skills for Audio Professionals,2nd Revised ed. Course Technology Inc.
5. Gibson, D., 2005. The Art of Mixing: A Visual Guide to Recording, Engineering and Production, Artist Pro Publishing

## CORE-IX – LIVE SOUND FOR SMALL VENUES INCLUDING ACOUSTICS

**UNIT I**
Introduction to live sound; Microphones –suitable for live; Placement techniques; Wireless Microphone system –diversity reception, Signal flow; Monitor of House : Front of house; PA mix ; Monitor stage mix – in-ear mix, stage monitors mix.

**UNIT II**
Consoles for live : Analog – allen & heath-midas – cadac – models and features Effects and dynamic processors ; DSP units ; Cross over [active and passive]; Stack PA ; Digital crossover – speaker management; Line array sound; Current advances and line array systems.

**UNIT III**
History of remixing;Beat mapping concepts;Conforming to grid and finding the tempo of a song; Arrangement of remixing a track; Effects and processing; Mash-up of different songs. Pitch shifting while doing mash-up; Concept of camelot chart while doing mash-u

**UNIT IV**
Browser configuration and navigation; Basic warping; Clip sample properties; Clip looping; Loop resampling;Dedicated loop decks;Adding one shots; Editing loops in the arrange view.

**UNIT V**
Configuring default audio tracks; Eq3; Auto filter; Phaser; Flanger; Beat repeat; Ping pong delay; Simple delay; Reverb; Audio effect racks; Dub effects via send and return; Session and clip automation editing; Assigning midi control; Assigning qwerty key control

**RECOMMENDED READINGS :**
1. Stark, SH (1996) Live Sound Reinforcement: A Comprehensive Guide to P.A. and Music Reinforcement Systems and Technology,Mix pro audio series, MixBooks
2. Everest, F. A., & Pohlmann, K. C. (2009). Master Handbook of Acoustics(5th ed.). Tab Electronics.
3. Howard, D., & Angus, J. (2009). Acoustics and Psychoacoustics(4th ed.). Focal Press.
4. McCarthy, B (2007) 'Sound Systems: Design and Optimization: Modern Techniques andTools for Sound System Design and Alignment', Focal Press.
5. Gibson, B (2007) 'The Ultimate Live Sound Operator's Handbook', Hal Leonard

## SKILL BASED SUBJECT –III – PRODUCTION OF ADVERTISEMENT JINGLES FOR RADIO, ONLINE, RINGTONES FOR MOBILES, PRESENTING & PROMOTION OF CONCEPTS

**UNIT I**
Understand the structure of the commercial music marketplace and the roles of its participants.

**UNIT I**
Create original jingles, library track packages, mobile ring tones and television themes according to industry standards.

**UNIT III**
Apply effective composition techniques for scoring to picture; Write and produce a jingle spot using provided voiceover copy and vocal lyrics; Create a memorable hook for a jingle.

**UNIT IV**
Understand revenue flow in the industry, in addition to fees, royalties, and residuals; Begin building your own promotional reel; Apply effective strategies for pitching your work to prospective clients.

**UNIT V**
**PRACTICALS**
Students will get hands-on experience writing jingles by creating an original jingle in a specific genre, using specific voiceover copy and vocal lyrics, and then re-arranging it in at least one alternative style.

They will also create an original instrumental theme and arrange elements of the composition to be used for stings, transitions, and cues.

Each of these assignments will help you build your own promotional reel that you can use to pitch prospective clients

## ELECTIVE -I ( CHOOSE ANY ONE)
## A- BASIC MUSIC PRODUCTION & ARRANGEMENT

**UNIT I: NUENDO/CUBASE**
Software application for audio editing; editing tools; nuendo/cubase extensive training.

**UNIT II: INTRODUCTION TO REASON**
Reason fundamentals and signal flow; Overview of instruments, fx, eq, automation and mixing; Advanced routing for creative audio production and design; Creative production tricks and tips.

**UNIT III: INTRODUCTION TO LOGIC STUDIO**
Navigating through logic; Environment and arrange window; Matrix, event, and hyper information; Recording and editing audio; Score window overview; Rewire; Automation; Plug-ins and mixing.

**UNIT IV: PRODUCTION TECHNIQUE WITH LOGIC STUDIO**
Recording,editing and mixing chops;Maximizing song arrangement during the mix process; Dissecting & understanding emotional arc; Delivery levels; Balancing the elements of the song; Submixes.

## UNIT V: OVERVIEW OF ABLETON LIVE
Introduction to ableton live concepts;Arrangement view ;Recording audio within live;Loop based arrangement;Groove pool, warping and clip automation;Programming beats using drum racks and impulse.


## B- INTERACTIVE AUDIO INTRODUCTION

The Interactive Audio Course introduces students to the importance of high-quality audio  for all applications of interactive media. Students delve into specific examples of audio and explore how they apply to the final product. The course provides a survey of audio, computer, and synthesis fundamentals as applied to streaming audio, video games, and other interactive content.

### UNIT I:
Fundamentals of Audio for Interactive media Applications.

### UNIT II:
Sound Design & Production for various Interactive mediums.

### UNIT III:
Multichannel Surround Sound Formats & Applications.

### UNIT IV:
Digital Audio Theories & Interactive Media Issues.

### UNIT V:
### ASSIGNMENT


## C- ON–LOCATION RECORDING & SOUND EDITING

### UNIT I
The Process ;Tools of Location Sound ; Introduction to the Location Sound Crew ; Dailies and Rushes ; Logging at production ; Different miking techniques for sync sound.

### UNIT II
Dealing with different effects libraries ; Understanding software like SFX Search etc ; Cleaning recorded SFX.

### UNIT III
Manipulation and understanding sound libraries ; Track laying concepts; Effects processing ; Designing Special effects ; Diegetic and non-diegetic sound; Designing ambient and Backgrounds; Effects Pre mix and stems.

### UNIT IV
ADR intro; ADR setup; Dialogue cleaning and Matching techniques ; Dialogue editing – Time compression, Expansion, Dialogue replacement; Dialogue Premix and stems.

### UNIT V
Concept of Foley Pit; Miking a Foley Pit; Using different items/props to record different sound; Editing and Processing a recorded Foley Sound; Noise Cleaning of a foley sound; Pre Mix and Stems.

## SEMESTER –VI
## CORE-X – ADVANCED AUDIO POST PRODUCTION

### UNIT I
Introduction to surround ; Surround sound systems will be defined ; Potential headroom issues in ITB mixing; Frequency range ; EQ techniques and tools in ITB mix down ; Phase relationships and MS analysis.

### UNIT II
Interest arrangement tricks and the creation of a dynamic mix;A review of the production process and the role of premastering.

### UNIT III
The standard mastering chain ; Levelling and sequencing with reference to Waveburner ; Surround file preparation. , including the files required by the assessment and the layout of the README.txt file.

### UNIT IV
Tracking and mixdown modes- Setting up and operating a hybrid mix in both studios.;Singleband compression Studio 2.; Hardware EQ using the AWS ; Hardware EQ using the AWS. The use of outboard reverb.and through the consoles.
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### UNIT V
Concept of Foley Pit; Miking a Foley Pit; Using different items/props to record different sound; Editing and Processing a recorded Foley Sound; Noise Cleaning of a foley sound; Panning of a recorded foley sound according to the scene; Recording Incidiental Foley and Footsteps; Pre Mix and Stems music

### RECOMMENDED READINGS :
1. The manuals for Pro Tools, Logic Pro and Ozone are all available in the programmes.
2. Everest , F . A .(2005) .Critical Listening Skills for Audio Professionals (2nd Revised ed.) Course Technology Inc.
3. Gibson, D. (2005). The Art of Mixing: A Visual Guide to Recording, Engineering and Production(2nd Revised ed.). artistpro.com LLC.
4. Izhaki, R. (2011). Mixing Audio: Concepts, Practices and Tools(2nd ed.). Focal Press.
5. Katz, B. (2003). Mastering Audio: The Art and the Science.Focal Press.
6. Senior, M. (2011). Mixing Secrets for the Small Studio.Focal Press, Oxford


## ELECTIVE –II (CHOOSE ANY ONE)
## A- ADVANCED MUSIC PRODUCTION & ARRANGEMENT TECHNIQUES

### UNIT I: USING LIVE INSTRUMENTS IN COMPOSITION
Mono Microphone Techniques to capture instruments; Distant Microphone Placement to capture instruments; Close Microphone Placement; Accent Miking; Ambient Miking; Stereo Miking Techniques. Double Tracking Vocals; Understanding multitracking and overdubbing; Use of quick punch when necessary.; Loop record and destructive record**.**

### UNIT II: WORKING WITH 3RD PARTY VIRTUAL INSTRUMENTS AND SAMPLERS-I
Different plugin types for different DAWs ; Native Instruments; Intro to Massive ; Different oscillators and Amp Envelopes in Massive;Routing in Massive. .; Different types of waves in

Massive; Sine wave, square wave, saw tooth, triangle etc; Different oscillators and Amp Envelopes in Massive; Routing in Massive;

## UNIT III: WORKING WITH 3RD PARTY VIRTUAL INSTRUMENTS AND SAMPLERS-II
The usage of the sampler library in Kontakt; Spectrasonics: Omnisphere, Stylus, Trillian; Sylenth; Different types of waves in Sylenth; Different oscillators and amp envelopes in Sylenth; Routing in Sylenth; Arpeggiator in Massive, Omnisphere, Sylenth

## UNIT IV: ADVANCE GROOVE DESIGN
Using Grooves; Groove Pool; Adjusting Groove Parameters; Committing Grooves; Editing Grooves;Extracting Grooves; Groove Tips.

## UNIT V: CONVERTING AUDIO TO MIDI
Slice to New MIDI Track; Re-sequencing Slices; Using Effects on Slices; Convert Harmony to New MIDI Track; Convert Melody to New MIDI Track; Convert Drums to New MIDI Track; Optimizing for Better Conversion Quality.


## B- MUSICMATHICS

## UNIT I
An introduction to the module ;An overview of the systems to be used (numbers, functions, calculus and notation); Sound propagation and the basic metrics used to define sound.  Testing the limits of the hearing system and discussing the perception of sound.

## UNIT II
The speed of sound ;Phase cancellation and summation; Making use of specialised audio programming software to create and analyse the phase relationships of different sound sources .Timbre and harmonic content; The harmonic series ;Using analytical software.

## UNIT III
Binaural perception; Localizinga sound;Sound Level Measurement; Define and discuss the inverse square law ;The equal loudness contours and dB weighting. ;Recap on logarithms and exponentials, including adding two decibels together Phons, the equal loudness contours and dB weighting

## UNIT IV
Instrument acoustics ; Correlation study ;Standing waves with reference to instrument design; Tuning and temperament . the historical development of tuning systems and a detailed look at how we tune most instruments today.; The need for tonal centres and key signatures in many Western music genres

## UNIT V
Human Voice; Introduction to voice analysis and voice synthesis ;  Sound propagation in enclosed space; Introduction to the room impulse response and its characteristics. .Definition of standing waves in an enclosed space.Introduction to the room impulse response and its characteristics.;Defining reverberation and analysing acoustic treatments for various spaces, considering different venues. Comparing acoustic and synthetic reverberation.

## RECOMMENDED READINGS :
1.Everest, F. A., & Pohlmann, K. C. (2009). Master Handbook of Acoustics(5th ed.). Tab Electronics.

2.Campbell, M., Greated, C. (1998) The musician's guide to acoustics.Oxford University Press.
3.Hall, D.E. (2002). Musical Acoustics  An Introduction.Brooks Cole.
4.Howard, D., & Angus, J. (2009). Acoustics and Psychoacoustics(4th ed.). Focal Press. 5.Loy, Gareth (2011a) Musimathics: The Mathematical Foundations of Music: 1,MIT Press. 6.Loy, Gareth (2011b) Musimathics: The Mathematical Foundations of Music: 2,MIT Press.
7.Backus, John (1977) The Acoustical Foundations of Music,2nd ed. W. W. Norton & Company.
8.Collecchia, Regina (2012) Numbers & Notes: An Introduction to Musical Signal Processing, Portland, Oregon, PSI Press.
9. Fletcher, Neville &. Rossing, Thomas (2010) The Physics of Musical Instruments,London, Springer.

## C- SOUND DESIGN & AESTHETIC DEVELOPMENT

**UNIT I**
Film sound history; Production sound intro; What is sync sound?; Production team Film appreciation (form the point of Sound design); Movie watching and critical listing practices.

**UNIT II**
Sound design ; Story telling.

**UNIT III**
Industry Standard Session Setup and Naming conventions.

**UNIT IV**
Pro tools key board shortcuts ; Session Management ; Wrapper formats ; Import and export of session data.

## ELECTIVE –III (CHOOSE ANY ONE)
## A- PROCESSING MIXING & MASTERING TECHNIQUES

**UNIT I**
Overview of vocal styles; Vocal ranges of different singers; Editing concepts of vocals; Concepts of EQ ; Concepts of Dynamic Processing; Vocal Processing using iZotope Nectar; Concepts of effects processing. Using Reverb, Delay etc. in vocal processing; Pitch Correction techniques in Vocal Processing; Different software for pitch correction

**UNIT II**
Overview of Mixing Music; Panning Perspectives; Building a Mix; Mix Setup: Organization and Phase Relationships; Compatibility between DAWs (OMF); Importance of Metering . Mixing Levels and Delivery Standards. Automated Mixing Overview and Historical Perspective; Dynamics Processing;

**UNIT III**
Compression Controls and Functionality; Limiting and Loudness Maximization; Noise Gating and Expansion; Use of Side-Chains, Keying, and Ducking Effects; De-ssing ; Multi-Band Compression, and Limiting;FX Processing.

**UNIT IV**
Mastering; Assembly editing; Sweetening; Output; Tube vs. solid state electronics; Quality Digital & Analog Processing; Quality issues with CD-R mediaShould it be mixed to analog or digital?; The

verdict; A note on monitors; Considerations for mastering; The CD has to be loud; What are the other considerations?;

## UNIT V
Solution; Technical tip if loudness is important to a mix; Improving the Final Product; EQ Technique; Creating Space; Phasing Problems; Alternate Mixes; TC Finalizer; Dither; THE LANGUAGE OF EQUALIZATION; Baril language; Various CD Formats; Red Book; Yellow Book; Mixed Mode; Blue Book; Green Book; Orange BooK


## B- SOUND FOR VIDEO GAMES

## UNIT I
Introduction to the module ; History of video gaming ;Types and functions of video game audio;An overview of the game business, including the production process commonly used in video game creation, the design document and the main roles and responsibilities

## UNIT II
Definition of, and discussion on, the audio design document. An overview of middleware (FMOD, Wwise), APIs, audio engines etc. An introduction to Unity as an example of a game engine.;Kahn-style flipped session  independant study looking at code and the main themes in game audio as covered by Karen Collins

## UNIT III
The sound production phase ; Pd, SuperCollider and Open Sound Control ;Smart audio mix engine ; Designing and implementing a smart audio mix engine Variability in game audio ;Audio variability in SuperCollider.

## UNIT IV
Live processing ;Physical modelling,occlusion and obstruction ; Dynamic music implementation and variability in sound design using Pd, SC and OSC triggers ; An introduction to practical algorithmic composition.

## UNIT V
Procedural sound effect creation ; Future developments in game audio ; Finalising the design. A discussion on documentation and versioning systems in code development and the usefulness of tools such as Git.Final arrangements for assessment format and submission.

## RECOMMENDED READINGS :
1. Collins, K. (2008). Game Sound: An Introduction to the History, Theory, and Practice of
Video Game Music and Sound Design.MIT Press, Cambridge, MA. Farnell, A. (2010). Designing Sound.MIT Press, Cambridge, MA.
2. Horowitz S. & Looney S. (2014), The Essential Guide to Game Audio: The Theory and Practice of Sound for Games,Focal Press
3. Marks, A. (2009). The Complete Guide to Game Audio: for Composers, Musicians, Sound Designers, and Game Developers.Taylor and Francis, 2nd edition.
4. Puckette, M. (2006) 'The Theory and Technique of Electronic Music',

## C – FILM RE-RECORDING & MIXING

**UNIT I**
Dialogue Processing; SFX Processing.

**UNIT II**
Foley Processing; Panning of Dialogue, SFX and Foley.

**UNIT III**
Setting up a 5.1 session in Pro Tools; Advanced Automation in Pro Tools for film mix; Music Mixing and editing in 5.1.

**UNIT IV**
Automation using control surface; Print Master Delivery – 5.1, 6.1, 7.1, LCRS.

**UNIT V**
Encoding Dolby, DTS @ SDDS Formats; Optical Transfer, Marrying and Replication.

## CORE –XI – EMPLOYABILITY SKILLS INDUSTRIES

**UNIT 1:**
The Music industries: television; film; video; new media; major employers; national employers; local employers; funding and finance (private ownership, public ownership, free market ethos, public service ethos)
Professional

**UNIT II**
Own responsibilities: personal responsibility; direct and indirect relationships and adaptability ; decision-making processes and skills; ability to learn and develop within the work role; employment legislation, ethics, employment rights and responsibilities.

**UNIT III**
Performance objectives: setting and monitoring performance objectives ;Individual appraisal systems ; Promotion strengths and weaknesses ; Training needs; Communication skills ; Appraisal criteria; Rating methods;Motivation and performance.

**UNIT IV**
Research for employment: internet, adverts, trade journals, networking, contacts, cold calling, targeting ; telephone technique ; letter writing ; emails ; personal calls ; follow up strategies.

**UNIT V**
Personal development: career objectives, career plan; peer feedback;self-evaluation;CV-structure;Exemplar workportfolio - website, choice of work, appropriate length, suitable format ; Personal presentation.

## CORE PRACTICAL –IV - SHORT FILM /DOCUMENTARY

**COURSE OBJECTIVE:**

1) To familiarize with the procedure and skills of producing music (both background music and songs ) fora Short film/ Documentary in video format.

2) To develop the faculty of visualization, preparation and execution of aaudio-video programme.
3) To offer hands on practice in music composition and audio post prooduction.
4) To enable the student to follow the correct production methodology applying all his skilland knowledge in his/her respective field.
5) To create awareness in each student towards the completion of the productions withinthe stipulated time and budget
6) To make the students to realize the importance of audio specialists to serve the societythrough Short film / Documentary programmes

**CONTENT:**
1. This project has to be completed playing their respective role from conceptualisation of music to the final completion of the production.
2. The student should utilize the production facilities only for one concept.
3. The student should be part of the film making unit and should play an active role in all the process of the Project

**MUSIC PRODUCTION FOR FILM PROJECT REPORT**
**COURSE OBJECTIVE:**
1) To enable the student to follow the correct production methodology and provide him/her an opportunity to contribute in union with fellow technicians and creators towards a common goal.
2) To create awareness in each student towards the completion of the productions within the stipulated time and budget.
3) To provide an opportunity for the students to apply all the creative and technical knowledge he/she has gained during the course of study in their respective field.

### SKILL BASED SUBJECT 4 - MUSIC PRODUCING & ARRANGEMENT - Practical

Arranging Contemporary Styles can be one of the main sources for creative approaches to Producing for TV, Film and Producing Tracks and songs in all these styles. It is always important for an arranger/producer to be equipped with different electronic and contemporary genres in terms of approaching positively to all his upcoming projects. The main aim of the module is to make the student at least equipped with the aesthetic, musical approach, instruments used with several genre including Indian film music, so that in near future the student is capable to deal with different musicians, music director and last but not the least to all various kind of projects.

**LEARNING OUTCOMES**

By the end of this course, the student will:
• Understand contemporary styles and their applications in today's music world
• Recognize style influences and create your own grooves using a root approach
• Recognize the production approaches that define these styles
• Expand your musical language stylistically through leaning identifiable rhythms

**UNIT I**
Several aesthetic build up exercises to have an open approach for different musical genres; Techniques of programming acoustic instruments such as guitar, drums, Indian instruments electronically; Understanding the moods of different music pieces and the progression

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