

INTRODUCTION TO AUDIO TECHNOLOGY

SYLLABUS

TITLE OF THE MODULE
1. Fundamentals of Audio Technology
2. Digital Audio
3. Audio Production
4. Basics of Music Production
5. Mixing and Mastering

Module 1: Fundamentals of Audio Technology

Unit 1:

- Physics of Sound (Frequency, Amplitude, Velocity, Wavelength, Phase, Timbre, Period, Harmonics & Overtones)
- Human Ear
- Properties of Sound (Reflection, Echo, Reverberation, Delay, Refraction, Diffraction, Absorption)
- Perception of Direction
- Doppler Effect

Practical Lesson: Introduction to DAW

Theory Assignment: Audio Cables & Connectors

Practical Assignment: Noise removal

Duration: 3
Hours

Unit 2:

- Audio Cables & Connectors
- Balanced Signals & Unbalanced Signals
- Dynamic Range, Signal to Noise ratio
- Metering (Analog - VU & PPM, Bar Graph, Digital)

Theory Assignment: Electromagnetic Induction, Capacitance

Practical Assignment: Record vocals without peak

Duration: 3
Hours

Module 2: Digital Audio

Unit 1:

- Sample
- Sample rate
- Bit Depth
- Nyquist Theorem

Module 3: Audio Production

Unit 1:

- Microphones
- Polar Patterns
- Recording Techniques

Practical Assignment: Record a singing group creatively using different polar patterns

Duration: 6 Hours

Unit 2:

- Equalisers, Dynamic Processing & Effects Processing

Practical Assignment: Use EQ, Dynamic Processors and Effects creatively in a session

Duration: 3 Hours

Module 4: Basics of Music Production

Unit 1:

- Introduction to Music Production
- ADSR
- Radio Edit
- MIDI Tracks & MIDI Editing

Practical Assignment: Radio Edit

Duration: 3
Hours

Unit 2:

- Synthesizers
- Sampling

Practical Assignment: Create 16 bars of music

Duration: 3 Hours

Module 5: Mixing and Mastering

Unit 1:

- Balancing of Sound
- Equalising the Frequencies
- Working with Audio Effects

Practical Assignment: Prepping a session for mix - Balancing of Sound

Duration: 3
Hours

Unit 2:

- Mixing & Mastering

Duration: 6 Hours

Practical Assessment

- Mixing and Mastering

Duration: 6
Hours

Reference

- The Recording Engineer's Handbook by Bobby Owsinski
- Modern Recording Techniques 6th Edition by David Miles Huber, Robert E. Runstein
- The Master Handbook of Acoustics 4th Edition by Alton F. Everest

MODE OF DELIVERY: Offline (Saturdays)

FEE STRUCTURE:

A total fee of Rs. 15,000/- is payable in two installments ("*Applicable only to the early registrations*")

First Installment : ₹10,000/-

Second Installment: ₹5,000/-