



Project No.
8013EC

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المعهد الهندسي لخدمات التكنولوجيا والبرمجيات

Engineering office for Technology and Software Services

Sound Engineering: Basics to Advanced Techniques





Sound Engineering: Basics to Advanced Techniques Code: 8013-EC

Course Description:

Master the art and science of sound in this all-in-one course designed for beginners to advanced learners. Learn everything from foundational sound theory to live event mixing and post-production for film, TV, and media using industry-standard tools.

Technical Information:

-  **Course Duration:** 40 hours (Over 6 weeks)
-  **Level:** Beginner to Advanced

Main Branch: United building – E Shams –Front NBE
, El Siouf _Alexandria

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- **Tools Used:** DAWs (e.g., Pro Tools, Logic Pro, Ableton Live), audio interfaces, microphones, mixers
- **Focus:** Studio recording, live sound, mixing, mastering, post-production

Target Audience:

- Aspiring sound engineers
- Musicians and producers
- Audio technicians and live sound professionals
- Media creators and filmmakers

What Will I Learn?

- Studio setup and sound capture techniques
- Deep understanding of EQ, compression, and mastering
- Live sound management and troubleshooting
- Audio post-production and syncing with video
- Create broadcast-ready audio for any platform

Course Modules:

◆ Module 1: Introduction to Sound Engineering (6 hours)

- Principles of sound: frequency, amplitude, waveforms
- Understanding microphones, mixers, speakers
- Sound recording basics: acoustics, environments, and tools
- Introduction to DAWs and audio interfaces

◆ Module 2: Audio Recording and Mixing (8 hours)

- Setting up a home or professional studio
- Recording techniques for vocals, instruments, and ambience
- Microphone types, placement strategies, polar patterns
- Basics of mixing: equalization, compression, and reverb

◆ Module 3: Advanced Audio Techniques (8 hours)

- Advanced mixing and mastering workflows

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- Noise reduction and audio restoration
- Surround sound and spatial audio production
- Sound design for film, TV, and video games

◆ Module 4: Live Sound Engineering (8 hours)

- Live audio system setup for concerts and events
- Managing live mixes and monitor mixes
- Real-time troubleshooting and problem-solving
- Handling wireless systems, RF interference, and mic feedback

◆ Module 5: Post-Production and Finalizing Sound (8 hours)

- Advanced audio editing software (Pro Tools, Audition, etc.)
- Mastering techniques for clarity and loudness
- ADR and syncing audio to video timelines
- Exporting and delivering files for web, broadcast, and film

📦 Materials Included:

- Practice multitracks for mixing
- Sample audio stems (vocals, drums, instruments)
- Signal chain diagrams & studio setup guides
- DAW session templates for beginners and pros

✅ Requirements / Instructions:

- A computer with a DAW installed
- A basic audio interface and microphone recommended
- Headphones or studio monitors
- Basic music/audio knowledge is a plus but not mandatory

🎓 Final Project:

- Create a fully mixed and mastered audio track or soundtrack
- Optional: sync audio to a short film clip using post-production techniques

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