Universitat Autònoma de Barcelona

2022/2023

Music Informatics

Code: 100669
ECTS Credits: 6

Degree	Type	Year	Semester
2500240 Musicology	OT	3	2
2500240 Musicology	OT	4	2

Contact

Name: Jordi Roquer Gonzalez
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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers

Santos Martinez Trabal

Prerequisites

Basic knowledge is required in "Musical language I" and "Musical language II". A good level of English is advisable.

Objectives and Contextualisation

The main objective of the subject is that the student acquires a panoramic vision of the main technological applications oriented to the creation and musical production. For this reason there are several possibilities for the creation and musical production of a recording studio.

At the end of the course the student must be able to:

To have a generic vision of the possibilities of applying technologies related to musical creation.
Have fluidity in a DAW environment with MIDI and audio capabilities.
Know how to deal with the arrangement and production of issues of complexity.
Have practical vocabulary to have a better understanding of the analysis and description of any sound phenomenon.

Competences

Musicology

- Apply technological and informatic media (internet, data bases, specific editing software and sound processing, etc.) to the discipline of musicology.
- Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.

- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.

Learning Outcomes

1. Apply basic technological concepts linked to music.
2. Be familiar with all the computer tools specific to musicollogy and know how to apply them correctly in projects.
3. Carrying out a planning for the development of a subject-related work.
4. Develop habits for transfer to the ambit of musical dissemination and information the musical training acquired.
5. Interpret the rules localized information on the websites of regulatory bodies on the Internet.
6. Solve problems of a methodological nature in the area of musicology.
7. Solving problems autonomously.
8. Use computer applications to edit scores.
9. Use sound sequencers and editors at user level.

Content

THEORY:

Recording history: fundamental formats and technologies.
A short tour of the history of musical production.
Theoretical foundations and basic principles of sound.
Basic aspects about mixing and signal path.
Equalization
Compression
Basic aspects of the MIDI and digital audio protocol.
Introduction to musical production in the DAW environment.
Introduction to sampling and sample bookshops.
Introduction to the synthesis and electronic generation of audio.
Analytical study of several audio production tools with corrective and / or creative capabilities.

PRACTICALS:

Auditory recognition of the effects and creative processes studied.
Creation of bases from REASON (from recorded samples and preys).
MIDI recording of a harmonious base.
Completion of practical activities related to the different methods of sound synthesis.
Remixes of a professional multi-file file.
Mixture of an orchestral arrangement based on a MIDI file.
Composition, production and mixing of a musical background for a video game sequence in a DAW environment.
Composition, production and mixing of music for an advertising spot in the DAW environment.

FINAL PROJECT:

Composition, arrangement, recording, editing and mixing of an own subject in the recording studio.

Methodology

The subject combines theoretical and practical sessions. The theoretical sessions explain the historical, theoretical and applied concepts. The practical sessions work on the basic functionalities of the software used

in the subject (Reason and Pro Tools). For the practical sessions the student will have a document that will guide him step by step throughout each practice.

The final project will be based on a study recording and the submission of two reports (one for prior planning and the other for documentation of the final recording, editing and mixing process). The reports must be submitted in pdf format by e-mail to the address proposed by the teacher. In the case of the final memory, an mp3 file must be attached with the final mix.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Practical sessions	25	1	1, 3, 2, 7, 8, 9
Teacher lectures	20	0.8	4, 3, 5, 2, 6
Type: Supervised			
Tutorization	7	0.28	3
Type: Autonomous			
Practical work and final project	50	2	1, 3, 5, 2, 7, 9
Searching information	15	0.6	3

Assessment

There will be various activities through an online platform. These activities can be done in class or at home and their total weight on the final mark is 30%. There will be a final test of synthesis of theoretical and practical contents that will have a weight of 40% on the final mark. The remaining 30% of the grade will come from the qualification obtained in the final project of the subject.

Students who do not pass the subject will have a revaluation test of the whole subject. The project has no reavaluation.

If a student does not present final the project of the subject will be considered non-evaluable.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Continous evaluation	30%	3.5	0.14	1, 3, 5, 2, 7, 8, 9
Final project	30%	28	1.12	1, 4, 3, 2, 6, 7, 8, 9
Theory exam	40%	1.5	0.06	1, 6, 7, 8, 9

Bibliography

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CHANNAN, Michael (1995): *Repeated takes: A short history of recordings and his effects on music*. Londres: Verso.

CUNNINGHAM, Mark (1996): *Good Vibrations.* Londres: Sanctuary Productions.

FRITH, Simon (1986): *Art versus Technology: the strange case of popular music*. Media, Culture and Society.

_____(2012). The Art of Recording Production: An Introductory Reader for a New Academic Field. Surrey: Ashgate.

KATZ, Mark. (2004): *Capturing Sound: How Technology Has Changed Music.* Berkeley: University of California Press.

MARTIN, George (1979): *All you need is ears.* New York: St. Martin's Griffin.

_____(1997): *Summer of love. The making of Sgt. Peppers.* Londres: Macmillan

MILES, Huber David (2007): *The MIDI Manual.* Abingdon: Focal Press.

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NUÑEZ, Adolfo (1992): *Informática y electrónica musical*. Madrid: Paraninfo.

PALOMO, Miguel (1995): *El estudio de grabación personal*, Madrid: Ed. Amusic.

RUDOLPH, Thomas E. (1996): *Teaching Music With Technology.* Chicago: GIA Publications.

RUDOLPH, Tom; RICHMOND, Floyd; MASH, David and WILLIAMS, David (2002): *The Technology Strategies for Music Education*. Londres: Hal Leonard Publishing.

SUPPER, Martin (2004) *Música electrónica y música con ordenador: Historia,estética, métodos, sistemas.* Madrid: Alianza Ed.

TRYNKA, Paul (Ed) (1996): *Rock hardware: 40 years of rock instrumentation.* London: Balafon Books.

WACHOLTZ, Larry E. (1996): *Star tracks. Principles for success in the music and entertainment business.* Nashville: Thumbs up Publishing.

WARNER, Timothy (2003): *Pop music, tecgnology and creativity.* London: Asgate.

Software

AUDACITY
https://www.audacityteam.org

REAPER Digital Audio Workstation.
https://www.reaper.fm