

MUSIC TECHNOLOGY

tp26 RECORDING AND SOUND PRODUCTION 1 (4-11 ECTS credits, 107-294 hrs)

The extent of this module is determined in each student's individual study plan.

Learning outcomes

Students will know:

the history of recording

the most typical analogue and digital technology used in a recording studio

the theoretical bases of recording

the most typical working methods in recording

After the course, students are able to create recordings in a multi-track studio and understand the role of the different stages of studio work in the recording process.

Evaluation

0-5

Recommended year of study

1st year

Preceding courses

Tools of Music Technology

Instruction and study

Instruction in small groups and exercises 40–100 hours

Individual instruction that is agreed upon based on the student's goals.

Methods

Individual study, especially studio work 45 – 172 hours

Peer evaluation of assignments in a group

Performances

Class and rehearsal attendance

Completion of the assignments

Reports on the assignments

tp88 Recording and Sound Production 2 (4-10 ECTS cr, 108-267 hrs.)

The scope of the course is specified in the student's individual study plan.

Learning outcomes

The student

– knows the special characteristics of record production in different music styles

– expands their knowledge on the use of a recording studio and equipment

– knows the basics of recording outdoor productions

– is familiar with the recorder/soundman, the interaction between the producer and the musicians as well as their working methods in different recording and sound amplification situations

Assessment

0–5

tp95 Recording and Sound Production 3 (10 ECTS cr, 267 hrs.)

Learning outcomes

The student deepens their knowledge of

-mixing popular music

-recording and mixing in surround sound

tp89 Advanced Studies in Recording and Sound Production 1 (4-8 ECTS cr, 107-214 hrs.)

Learning outcomes

The student deepens their knowledge of

- mixing popular music
- jazz and folk music
- recording of large musical assemblies: big band, entertainment orchestra etc.
- recording and mixing in surround sound

tp90 Advanced Studies in Recording and Sound Production 2 (4-8 ECTS cr, 107-214 hrs.)

Learning outcomes

During the courses, the students familiarize themselves with current possibilities, the industry's economic viewpoints and professional working methods. Additionally, the students get acquainted with experiences and working methods of different professionals.

tp99 Mixing workshop 1 (6 ECTS cr, 160 hrs.)

Learning outcomes:

The student learns to

- develop their own personal views on mixing
- manage technical ways to carry out their own visions

tp100 Mixing workshop 2 (6 ECTS cr, 160 hrs.)

Learning outcomes:

The student

- is able to understand large and challenging entities
- manages mixing in surround sound for different purposes

tp97 Artistic Production of Popular Music 1 (8 ECTS cr, 214 hrs.)

Learning outcomes

The student understands

- the different roles and pressure conflicts of an artistic producer as part of the sound production chain
- the responsibility of a producer as a quality controller for the recording
- the different technical and economical & logistical stages of the sound production process
- different production methods and models of modern pop production
- the governing commercial reality of the pop world (sound recording industry, radio, media)
- different issues of the production process and their solution models
- what makes a hit song
- the history of producing easy listening from the 1930s to the 2010s
- the impacts of technical development on the producing methods
- one's own selfhood as a producer

- their own approach to producing as a professional opportunity at a personal level

tp98 Artistic Production of Popular Music 2 (8 ECTS cr, 214 hrs.)

Learning outcomes

The student

- produces a piece of music from beginning to the end for the commercial market during the course
- familiarises oneself with, analyses and organises production for an example artist
- knows the production methods suited for different genres
- stumbles upon all different potential aspects of being a producer during the process
- understands the relevance of managing the psychological side of the production process
- understands the relevance of personal artistic risk-taking in relation to success
- understands the unpredictability of the process and the relevance of a problem solving ability
- understands one's own assumption of responsibility and how nothing is accomplished without it

tp61 RECORDING CLASSICAL MUSIC I (4-5 ECTS credits, 108-135 hrs)

Learning outcomes

Students will:

know the most common classical music ensembles;

know the most common ways of placing microphones and how to apply that knowledge in recording in practice

know how to design and organize a recording project by utilizing music score.

Recommended year of study

1-2.

Evaluation

Teacher evaluates; pass/fail

Instruction and study

Lectures and guided listening a maximum of 35 hours

Project instruction classes a maximum of 10 hours

Methods

Assignments: a maximum of 15 hours

Recording projects in a small group, up to 48 hours

An optional assignment up to 27 hours

Performances

Course completion requires active participation in instruction.

Learning outcomes a, b and c:

participation in recording projects

mixing and mastering of recordings (Pro Tools)

Presenting the recording project to the class

Group size: 10 students maximum

tp62 RECORDING CLASSICAL MUSIC 2 (8-11 ECTS credits, 216-297 hrs)

Learning outcomes

Students will:

- know how to plan, organize, and conduct a recording project independently
- have the competence for recording project mixing and mastering
- have studied one large recording project (symphony orchestra, opera, other)

Recommended year of study

2-3

Evaluation

Teacher evaluates: pass/fail

Preceding courses

Recording Classical Music I

Preceding courses

Recording Classical Music 1

Instruction and study

- Lectures and guided listening: Maximum of 30 hours
- A minimum of two recording projects individually or with a maximum of 2–3 person student groups (a solo performance, chamber music, choir, etc.): 40 hours
- Study visits (for example, YLE, commercial studios, opera): Maximum of 15 hours
- Symphony orchestra or opera recording project: with a maximum of 5 students in a group: Up to 40 hours
- Mixing and mastering one's own projects: Maximum of 90 hours
- Project instruction classes: Maximum of 20 hours
- Additional projects according to the teacher's guidance: Maximum of 81 hours

Method of completion

Completing the course requires active participation in instruction.

Learning outcomes a, b and d:

- Completing recording projects, including an examination of the repertoire,
- Recording, mixing and mastering (2–4 projects)
- Participation in guest work and a large recording project
- Presenting a recording project to the class

Group size: 10 students maximum

tp87 Synthesizer in Popular Music (6 ECTS cr, 160 hrs.)

Learning outcomes

The student

- manages the most important principles, architectures and user interfaces of both hardware and plug-in based synthesizer;
- manages the basics of sampler usage;
- manages the MIDI and synthesizer terminology;
- has independently designed and produced synthesizer sounds (presets) in the popular music context;
- is familiar with the role of the synthesizer in the different popular music genres and has produced practical works based on it

tp94 IPSAT - Introduction to Principles of Spatial Audio Technology (3 op per term)

1-2 term, 36-45 OT per term

Learning Outcomes:

Students will gain insights into:

Spatial hearing and multimodal perception

The principles of spatial audio technologies

Implication on musical practices

Psychophysical Experiments

How to integrate these insights into their artistic work

The sessions consist of 2 x 45 minutes theory followed by 1 x 45 minutes experiments, or sometimes experiments first, theory/discussion after.

Block I Sound Perception (sessions 1-5)

- perception (based on Alain Berthoz)
- basics of psychophysical experiments
- psychoacoustic metering
- spatial hearing (Sound source localisation, Blauert, Moore)
- spatial acoustics (Blessr, Salter)

Block II Sound Reproduction (sessions 6-10)

- From Mono to stereo
- Binaural (HRTF)
- Vector based Amplitude Panning
- Ambisonics
- Wave Front Synthesis

Block III Implications on Practice (11-12/15)

- Spatial paradigms
- Cultural context
- History

tp96 EXPERIMENTAL RECORDING TECHNICS (2 op, 53 t)

In this workshop participants will explore, experiment and analyse alternative approaches to sound recording technics. Students will develop through qualitative judgments the experimental attitude to create and manipulate sound qualities during the recording process. The course is intended to bridge artistic and engineering practices by extending the scope of recording technics available at the studios while simultaneously adopting a research attitude towards the discipline of audio recording.

The course will be evaluated with attendance 80% and final presentation 20%

Learning outcomes

Students will:

- experiment with materials and equipment to find creative solutions for audio recordings.
- develop their own set of technics to create and manipulate sounds during the recording process.
- improve the analysis and qualitative judgments through comparative listening.
- familiarise with methods of experimental research.

Contents

The workshop is a hands-on workshop where many materials and a variety of equipment will be available for experimentation opening up a research attitude and developing original ideas.

Some suggestions to start with:

- loudspeakers as microphones

- moving microphones
- hydrophones
- direct electric signal recording
- springs, metal sheets and resonators
- close ups and over amplification
- recording the human body
- carbon, grafito and other chemicals
- film technics for audio tape
- field recording

tp76 BASICS OF STAGE SOUND (4 ECTS credits, 108 hours)

The course covers the basics of modern amplifying:

Planning and assembling simple sound amplification systems

Mixing a concert

Familiarity with established working methods

Learning outcomes

Students will become familiar with the general principles and methods of modern concert amplification. Students will become familiar with the different aspects and functions of sound amplification and the special technical characteristics of amplifying different genres.

Grading scale

Preceding courses: tp40 Tools of Music Technology

Instruction and study:

Lectures: 45 hours

Group practice for different genres

Independent or supervised work in concerts

Analysis and written reports on concert amplification

tp77 VENUE AMPLIFYING, PRACTICE (2–4 ECTS credits, 54–108 hours)

In this course, students will practice the content of the tpxx course in concerts.

Learning outcomes

Students will be able to assist in concerts and assume responsibility as a technician in a concert that is technically and artistically less demanding.

Instruction and study

Assignments

Grading scale

Preceding courses: TP80

tp78 VENUE AMPLIFYING ADVANCED (4 ECTS credits, 108 hours)

In this course, students will become familiar with the aesthetic requirements for amplifying sound in different genres from a technical execution angle.

Students can choose one of the following specialisations:

Technical and aesthetic requirements of a certain genre

Complex sound amplification systems

Demanding tasks of a technician

Learning outcomes:

Students will be able to work independently as the head sound technician in concerts with high technical and artistic demands.

Students will expand their skills and knowledge of the technical and aesthetic requirements of a certain genre.

Grading scale**Preceding courses:**

tp81

Instruction and study

Independent and supervised individual assignments

Group instruction

Analysis and written reports on concert amplification

tp30 MEDIA AND SONIC ART 1 (4-8 ECTS credits, 107-214hrs)

This course will introduce the history and basic concepts of media and sonic art and the basics of related technology and practice.

Learning outcomes

Students will:

become familiar with the different sectors of media and sonic art and their relationship

become familiar with related technologies and practices

become familiar with the basic concepts of media and sonic art

become familiar with the historical development in the field

Evaluation

Pass/Fail

Recommended year of study

Music technology majors, year 1. This course is also recommended to other Sibelius Academy students at any point of their studies.

Preceding courses

Tools of Music Technology

Methods

Spring term only every second year, 60 teaching hrs

Small group teaching, lectures, visits of media and sonic art exhibitions and events, critical readings and discussions, mini-research, report and presentation exercises, organizing knowledge into concept maps

Requirements

Class attendance (80%), Completion of the assignments by deadline, professional conduct and participation to the group work.

tp31 MEDIA AND SONIC ART 2 (8-11 ECTS credits, 214-294 hrs)**Learning outcomes**

Students will:

become familiar with practical working methods in media and sonic art

understand the processes related to the starting and implementation of media and sonic art projects

be aware of the general principles of project working

evaluate their proficiency

Evaluation

Pass/Fail

Preceding studies

Media and sonic art 1

Recommended year of study

Music technology majors, year 2. This course is also recommended to other Sibelius Academy students at any point of their studies.

Preceding courses

Tp30 is a recommended but not compulsory before this course.

Methods

Fall and Spring terms every second year, 120 teaching hrs. Workshops presenting of various technologies and practices of the field, small group tuition, independent work, small research and exercises, critical readings and discussions, media analysis.

Requirements

Class attendance (80%), completion of the assignments by deadline, professional conduct and participation to the group work

ts5m MEDIA AND SONIC ART ADVANCED STUDIES (master) (8 ECTS credits, 216 hrs)

The course is planned for Music and Technology students from any level, composition students interested in electroacoustic music, sound art students, live performance and theatre sound design and sound in new media students. In this course, students will plan and implement a project in media and sonic art and work together with the group. The teacher and peers will provide feedback.

Learning outcomes

By completing this course the students will have acquired an advanced practical experience of working with media and sonic art projects and develop their own creative processes, critical reflection on their artistic decisions, add a research dimension to their work, and develop abilities to self-directed work.

Evaluation

Pass/fail

Planned for third year or more CM&T students and SOIN students

Methods

Fall and Spring terms every year, 120 teaching hrs

Group work for the realisation of a complex media and sonic art project, discussion, reflection, written work

Requirements

Class attendance (80%), completion of the assignments by deadline, professional conduct and participation to the group work

tp69 COLLABORATIVE PRACTICE BASED ARTISTIC RESEARCH ON SONIC AND CORPORAL GESTUALITY (4 – 8 op, 107 – 214 t)

Weekly sessions of experimental collaborative artistic research focused on sonic and bodily gestuality, motion, transformations, resonances, tensions, resistances and complicities. The students are encouraged to identify, describe and deepen their own artistic identity and doing so to situate their contribution to the research. The sessions are based on group improvisation, reflection and discussion, collaborative design of experiments around research questions proposed by the group, and doing these experiments. Reiterating this cycle of activities the group participate to a collaborative building of knowledge. This knowledge is documented in

field notes, learning diaries and articles, sketches and drawings, performances or any other media proposed by the members.

Learning outcomes

By completing this course the member of the group:
identifies, describes and deepens his/her artistic identity,
identifies what is an ethical conduct in a collaborative artistic research,
produces a part of the collaborative practice based research in junction to his/her own artistic work,
is able to integrate constructively the views and contributions of the other members into his or her own reflection,
knows the process of collaborative design of experiments
has deepened his / her skills in interdisciplinary improvisation

Assessment

By the teacher, pass or fail

Instruction and study:

Group work in laboratory methods: 60 hours

Group discussions: 60 hours

Independent work and a written article: 40–94 hours

Method of completion:

Attendance (80%), submittal of assignments by the deadline, and active participation in group work

tp50 Composition and Theory of Acousmatic Music (4 ECTS credits, 107 hrs)

Learning outcomes

Students will:

understand the basic concepts of electroacoustic music, sound composition, sound organization, etc.

acquire knowledge of the types and subgenres of electroacoustic music via musical examples by listening, reading scores and practical analysis

have taken their first steps in electroacoustic composition by completing several exercises

Evaluation

0-5

Recommended year of study

1st year

Instruction and study

Lectures and group instruction for 40 hours (Other forms of instruction may be applicable at the teacher's discretion)

Reading, homework and studio work up to 67 hours.

Methods

Reading, homework and studio work up to 67 hours.

Performances

Learning outcomes

Active participation in the lectures;

Monitoring of the use of the learning materials, a possible listening exam;

Completion of the assignments

Literature (compulsory)

Landy, Understanding the Art of Sound Organization

tp105 Electroacoustic Music workshops (4 ECTS cr, 107 hrs.)

Learning outcomes

The student

- a) deepens and expands the knowledge of the electroacoustic repertoire
- b) learns to produce material by using sound synthesis
- c) becomes familiar with a large collection of sound processing and mixing tools
- d) builds a coupling for the live processing of an instrument and presents it publicly
- e) learns electroacoustic sound amplification and basic performance techniques.

tp70 Electroacoustic Music Seminar

The Electroacoustic Seminar provides a friendly forum for feedback and discussion, in which students present either their own electroacoustic work, or give presentations on electroacoustic music topics which interest them. 'Electroacoustic' here is understood in the broadest possible terms, extending to sound design, other forms of electronic music, etc. The course will also include sessions on topics associated with electroacoustic culture and practice, including techniques, composers, specific works, visits to galleries and installations, visiting composers, etc.

Learning Outcomes

The student should:

- have a strong understanding of the subject of their presentation(s);
- have a broadened understanding of the electroacoustic music context.

Evaluation

Pass/fail

This course is intended for any students with an interest in electroacoustic music. Some previous familiarity or experience with electroacoustic music is preferred, but not essential.

Instruction and study

Instruction in small groups 40 t

Methods

Presentations, lectures, practical sessions, attending concerts and events, critical readings and discussions, practical exercises

Requirements

Class attendance (80%), presentation, professional conduct and participation in group work

tp71 ELECTROACOUSTIC DIFFUSION (8 ECTS credits, 214 hrs)

This course explores the concepts, methods, and techniques of sound diffusion as a performance practice.

Learning outcomes

The student should:

- be familiar with the design principles of primary existing loudspeaker orchestras;
- be familiar with the primary aesthetic considerations;
- be familiar with the essential elements of diffusion performance technique;
- have a basic fluency in diffusion performance.

Evaluation

Pass/fail

This course is intended for third year or higher Bachelor's students or Master's students.

Intended for MuTe students, or for other students with some background and experience with electroacoustic music.

Instruction and study:

Group instruction and individual instruction
Lectures, practice in concert halls and performance

Method of completion:

Attendance (80%), submittal of assignments by the deadline, active participation in group work and performance

tp53 INTRODUCTION TO ELECTROACOUSTIC MUSIC (6 ECTS credits, 160 hrs)**Learning outcomes**

Students will:

learn the basics of composing new music (can be substituted with previous studies, min. 4 ECTS credits)

learn the acoustic characteristics of instruments, venues, microphones, and speakers

learn the basics of pitch-class, the numeric use of musical information, recording instruments and other sound material, field recording

learn to work with an audio workstation in mixing electroacoustic music and processing sound material.

Recommended year of study

1st.

Evaluation

Teachers of various fields evaluate according to a formula agreed upon, pass/fail

tp72 LIVE ELECTRONIC MUSIC ATELJE (8-10 ECTS credits, 216-297 hrs)**Learning outcomes**

The student should:

familiarize with performing analog and digital instruments

understand the principles for electronic sound generation through the study of electronic instruments.

investigate the repertoire in a historical and aesthetic perspective.

Grading

Pass/Fail

This course is intended for Bachelor's students or Master's students with interest or experience in live electronic music.

Instruction and study

Workshops 120 hrs

Methods

Practical sessions, individual projects, presentations, final concert

Requirements

Class attendance (80%), Completion of the assignments by deadline, professional conduct and participation in group work, participation in final concert.

tp56 DIGITAL MUSICIANSHIP (4 ECTS credits, 107 hrs)

This course is a laboratory to investigate the creative and performative process in a sonic improvisation context.

This course is a laboratory to experiment and investigate the musical potential of digital instruments in the context of electroacoustic music.

This course is intended for Bachelor's students or Master's students from any discipline interested in digital arts and performance.

The language of instruction is English.

Learning outcomes

Students will:

learn the basic functions of the electronic sonic art tools of their choosing

learn how to build and play their own digital instrument

learn the theory and practice of electronic improvisation; understand the basic concepts of sonic art and its role on the field on digital art

experiment for the first time with practical performing digital sonic art through exercise assignments.

Recommended year of study

2nd

Evaluation

Teacher grades on a scale of 0-5

Instruction and study

Group instruction ensemble practice for 40 hours (Other forms of instruction may be applicable at the teacher's discretion)

Methods

Reading, programming, and homework up to 67 hours.

Performances

Learning outcomes a, b and d

Active participation, completion of an assignment;

Presentation and playing of an instrument to the peers;

Participation in improvisation and playing;

Participation in a public performance if possible.

Learning outcome c

Assigned reading, essay;

Literature (compulsory): Andrew Hughill, *The Digital Musician*

tp73 SUPERCOLLIDER (8-10 op, 216-267 h)

This course explore the syntax and possibilities of code base programing. SuperCollider is an open source object oriented programming environment for real-time audio processing. It is one of the finest and most versatile environments for signal processing and especially for creating music applications of all kinds, such as complete compositions, interactive performances, installations etc.

Learning Outcomes

The student should:

understand the architecture and signal flow in the language.

create, modify and play networks of unit generators.

build digital synthesizers.

explore different control paradigms for performance purposes.

study the implementations of sound synthesis techniques.

investigate live coding practices and other implementations of the language.

Evaluation

Pass/fail

This course is intended for Bachelor's students or Master's students of music technology or students with a basic knowledge of digital sound theories. No prior experiences of programming is required.

Instruction and study

Workshop 75 hrs

Methods

Practical sessions, individual projects, final presentation

Requirements

Class attendance (80%), Completion of the assignments by deadline, final presentation

tp66 Max (8 op, 214 t)

The Max/MSP program can be used in electroacoustic or electronic composition, sound syntheses, real-time control of sound or video art, and other applications of music and visual or media art. This course is an introduction to the Max/MSP programme. The Max/MSP program can be used in electroacoustic or electronic composition, sound syntheses, real-time control of sound or video art, and other applications of music and visual or media art.

Instruction and study

Group instructions 70 hours

Methods

Familiarity with study material, extensive programming assignments.

Performances

Class attendance

Literature, independent study

Exercises assigned by the teacher

Coursework

tp74 BASICS OF ANALOGUE SIGNAL PROCESSING (4 ECTS credits, 107 hrs)

Learning outcomes

Students will learn:

The electrical safety regulations and the basic principles of earthing in sound work

To assess which care and maintenance tasks are safe and which should be outsourced

To read flow charts and circuit diagrams and to apply them to circuit board planning and the placement of components

The basics of electronics in order to be able to complete simple maintenance and assembling tasks

To know the basics of functions of common passive and active components

The basic concepts of low-frequency amplifiers and passive and active filters

Evaluation

By the teacher: pass/fail.

Instruction and study

Group instruction 100 hours

Methods

Group or independent exercises and assignments given by the teacher, in total 67 hours.

Performances

Class attendance

Completion of the assigned tasks or a final examination

tp75 APPLICATION OF ANALOGUE SIGNAL PROCESSING (2–4 ECTS credits, 54–107 hours)

Learning outcomes

Students will expand their knowledge and skills in a supervised project, in which they will build a preamplifier, equalizer, compressor, or other simple audio device, using semiconductor or electron tube technology, as approved by the teacher.

This project will help the student understand the structure and function of the equipment used for creative work in other music technology courses.

Evaluation

Evaluated by the teacher on a scale of pass/fail

Preceding courses

tp74 Basics of Analogue Signal Processing

Recommended time of study

1st year spring

Instruction and study

Instruction in small groups: 50–100 hours

Lectures 4–7 hours

Building of an electronic device under teacher supervision.

Method of completion

Completion of the assignments or the presentation of an equivalent project to the teacher

tp57 BASICS OF DIGITAL SIGNAL PROCESSING (4 ECTS credits, 108t hrs)

The course covers the theory of digital signal processing through lectures and practical exercises. Students study sampling theory, Fourier's theorem, the convolution theorem, and the combinatorics of signal processing.

Learning outcomes

simple digital filter frequency response

theoretical knowledge of the signal processing systems used in studio work.

Evaluation

Teacher evaluates 1-5

Instruction and study

Instruction in small groups: 45 hours

Calculus classes: 20 hours

Exercises

Method of completion

Final examination

tp58 APPLICATION OF DIGITAL SIGNAL PROCESSING (4 ECTS credits, 108t hrs)

The course applies the knowledge of the theory of digital signal processing to produce musical sound processing algorithms with the help of software.

Learning outcomes

Students will study the programming language used in the course and the basics of computing science.

Evaluation

Teacher evaluates 1-5

Preceding courses

Basics of Digital Signal Processing

Instruction and study

45 hours of group instruction

Independent or group practice

Programming assignment

Method of completion

Programming assignment

tvx15 COMPUTER-ASSISTED COMPOSITION (8 ECTS credits, 214 hrs)**Learning outcomes**

Students

will become familiar with different programming platforms that can be used in composing

will learn to apply computer-aided composition techniques to their own artistic work

Contents

Introduction to programmes (e.g., OpenMusic, PWGL, Audiosculpt), concepts of computer-aided composing, analyses of works applying different aspects of computer-aided composing and a composition applying the learned techniques

Evaluation

On a scale of 0-5

Instruction and study

Group lectures: 35 hours

Methods

Familiarity with study material, extensive programming assignments, in total 45 hours

Literature

Performances

Class attendance

Exercises assigned by the teacher

Coursework

tp80 Music and Narration in Film lecture series (6 ECTS cr)**Learning outcomes**

A student that has completed the module

- is familiar with both film and sound narrative

- is particularly familiar with the traditions of film music and its expressional possibilities

Assessment

- an essay or a learning diary / semester

- the teacher evaluates by using the grading scale of a/i

tp81 Composition and Production of Film Music workshop (8 ECTS cr, 210–240 hrs.)**Learning outcomes**

A student that has completed the module

- is familiar with the production process of film music

- is able to compose and produce music for demos
- understands the importance of music concerning the complete narrative of a film
- is familiar with the basics of a symphony orchestra recording film scores in a studio setting

Assessment

- the teacher's personal feedback on exercises
- peer review
- the teacher evaluates by using the grading scale of a/i

tp82 Director- Sound designer- Composer workshop (4 ECTS cr, 100 hrs.)

Learning outcomes

A student that has completed the module

- Is able to work as a part of a film production crew and able to communicate about artistic ideas as well as practicalities with the rest of the group
- is able to produce material for demos as per agreed schedule and able to receive feedback from the director as well as the sound designer

Module assessment

- the teacher's personal feedback on exercises
- peer review
- the teacher evaluates by using the grading scale of a/i

Previous studies

- Completion of the Music and Narration in Film lecture series
- Completion of the Composition and Production of Film Music workshop

tp91 Sound Production and Recording of Film Scores 3-8 ECTS cr

Learning outcomes

A student takes part into the course either as a composer, recorder and sound producer or as a conductor.

A student that has completed the module

- is able to establish and understand the entity of recording and sound production of film music and its special characteristics: working on scores and parts for a recording session, preparing for a recording session (possible synchronization of image or use of click), carrying out a recording session, conducting film music, postproduction of scores as well as mixing
- understands the importance of group work as an essential part of achieving a successful end result

Assessment

a/i, peer review through group discussions.

Potential previous studies

Composers that have sufficient enough skills in composing scores are allowed to take the course. x. Additionally, the previous completion of tp 80 Music and Narration in Film lecture series as well as tp 81 Composition and Production of Film Music is required from the students. Sufficient skills for working in a studio setting are required from the conductors. Sufficient studies in sound technology and recording are required from the recorders and sound producers.

tp86 Video Game Music: Theory and Work Environments (8 ECTS cr, 210-310 hrs.)

Learning outcomes

A student that has completed the module

- is familiar with the work environments and production processes of music and sound design for video games
- is able to compose and produce music for games
- is familiar with the professional terminology and history of the games industry
- masters the basics of dynamic, adaptive and generative music production

Previous studies

tp88 Recording and Sound Production 2 or equivalent skills in recording as well as in sound and music production

Grading scale of 0-5

tp92 Recording Music for Games workshop 3-8 ECTS cr

This course is organized together with xx the Sound Production and Recording of Film Scores course and it follows mostly its course description. The workshop for recording music for games concentrates on the production and composition techniques of dynamic music. The students will take part into the course as composers or as recorders/sound producers. The learning outcome is to comprehend and carry out a recording of a composition that is orchestral and sample-based as well as familiarize with orchestration, production and postproduction processes for adaptive media i.e. games.

Learning Outcomes

A student takes part into the course either as a composer, recorder and sound producer or as a conductor.

A student that has completed the module

- is able to establish and understand the entity of recording and sound production and its special characteristics: working on scores and parts for a recording session, preparing for a recording session (possible synchronization of image or use of click), carrying out a recording session, conducting film music, postproduction of scores as well as mixing
- understands the importance of group work as an essential part of achieving a successful end result

Grading scale of 0-5

tp93 Repertoire of Games 3 ECTS cr

The lecture series for music in games introduces different types of games music from different genres and eras.

Learning outcomes

A student that has completed the module is familiar with the most important genres of computer games as well as the aesthetics and technical background of the music that is typical for them.

Grading scale of a/i

tp24 ELECTROACOUSTIC COMPOSITION (7 ECTS credits per academic year, up to 21 ECTS credits)

The extent of this module is determined in each student's individual study plan.

Learning outcomes

Students will:

master the basics of composition technique and expression methods in electroacoustic music
gain experience in composition work in a studio environment or with a live electronic configuration

The course can be completed in several parts.

Evaluation

Graded by jury on a scale of 0-5

Preceding courses or courses to be completed simultaneously

Electroacoustic Music 1

Instruction and study

Individual instruction (maximum of 4 hours / ECTS credit, 24 hours per academic year)

Methods

Completion of the assigned tasks

Requirements

Active participation in coursework;

Completion of assignments

Depending on the number of ECTS credits, a portfolio of exercises and compositions for a minimum of two works.

tp22 PUBLIC PERFORMANCE USING ELECTRONIC EQUIPMENT (7 ECTS credits per academic year, up to 21 ECTS credits)

The extent of this module is determined in each student's individual study plan. The aim is a confident artistic and technical performance in public using chosen equipment, as a soloist and/or in an ensemble. For the performance, the equipment can be connected to one or more acoustic instruments. The artistic development of the student's individual repertoire may comprise part of these studies.

Evaluation

Graded by jury on a scale of 0-5

Preceding courses or courses to be completed simultaneously

Electroacoustic Music 1

Instruction and study

Individual instruction maximum of 4 hours / ECTS credit, 24 hours per academic year

Methods

Familiarity with the repertoire

Performances

The student gives the performance

tp45 STUDIES IN PERFORMANCE (5 or 7 ECTS credits per academic year, 134–188 hours)

The extent and level of the repertoire depends on the extent of the module itself. The extent of this module is determined in each student's individual study plan.

Learning outcomes

Students will:

learn the basics of playing an instrument

study various styles and their repertoires

understand the basic techniques of an instrument from the music technological point of view

Assessment

Evaluation by the teacher; pass/fail or on a scale of 0-5 (agreed upon with the teacher).

Instruction and study

The student and the teacher together write a course plan determining the contents of the course (repertoire and implementation). The plan must be approved by the head of the student's department. The tuition is implemented according to the plan approved by the department head. Study rights are granted by the head of the department responsible for the tuition. The module may include studies in several instruments. Individual instruction for a maximum of 20 hours or 24 hours, in accordance with the agreed extent of the course.

Methods

Familiarity with the repertoire

Performances

Class attendance.

Performance examination or a performing demonstration. If the student chooses to give a level performance, the programme must follow the current level description of the instrument.

tp25 MUSICAL ASSISTANTSHIP (7 ECTS credits per academic year, up to 21 ECTS credits)**Learning outcomes**

Students will learn:

to become capable of working as part of a team in executing musical or research projects
to understand their tasks clearly and plan and execute their own role independently and reliably

to keep up-to-date with the project's technical, artistic, and social aspects

practice all of these skills

NOTE: The extent of this module is determined in each student's individual study plan. The course can be completed in several parts.

Evaluation

By the teacher with a colleague on a scale of 0-5

Instruction and study

Individual instruction maximum of 4 hours / ECTS credit, 24 hours per academic year

Methods

For example, the module can consist of working as a composer's assistant in an electroacoustic studio, planning and configuring digital and analogue equipment in live electronic performances, or studying problems of technology-based improvisation as a technical-artistic assistant.

Performances

Class attendance

tp21 SYNTHESIZER (7 ECTS credits per academic year, up to 21 ECTS credits)

The extent of this module is determined in each student's individual study plan.

Objective

To master the instrument so that the student recognizes different architectures of the synthesizer and is able to utilize them as part of playing technique and musical expression.

The extent and level of the repertoire depends on the extent of the module itself. The module

applies information about different synthesis and control techniques. The student becomes familiar with voice and ensemble programming and the general control of the instrument in programming and performance situations. Alternatively, this module can be taken on synthesizers other than keyboard synthesizers.

Evaluation

Graded by a jury on a scale of 0-5

Preceding courses or courses to be completed simultaneously

Electroacoustic Music 1

Instruction and study

Individual instruction for a maximum of 4 hours / ECTS credit, 24 hours per academic year
Performances

Class attendance.

tp23 COMPOSITION (7 ECTS credits per academic year, up to 21 ECTS credits)

The extent of this module is determined in each student's individual study plan.

Learning outcomes

Students will:

master the basics of composition technique in different music styles

gain experience in composition work

learn to take into account the requirements of both performers and music

The course can be completed in several parts.

Evaluation

Graded by jury on a scale of 0-5

Preceding courses or courses to be completed simultaneously

Music Theory Studies min. 5 ECTS credits

Instruction and study

Individual instruction for a maximum of 4 hours / ECTS credit, 24 hours per academic year

Methods

Completing the assigned exercises

Composition portfolio

Requirements

Active participation in coursework;

Completion of the assigned tasks

Submittal of a composition portfolio as agreed.

tp40 TOOLS OF MUSIC TECHNOLOGY (10 ECTS credits, 267 hrs)

The course covers the basic skills required for the other music technology courses.

This course is a prerequisite for the following courses:

tp26 Recording and Sound

Production 1

tp76 Basics of Stage Sound

Learning outcomes

Students will master the basics of the use of key tools (microphones, sound desks, and sound work stations) in a way that they can execute their tasks safely while taking into account the purpose and good maintenance of equipment.

Students will study computers from the standpoint of a music technologist. Course content includes operating systems, file management and back-up, as well as the key music applications.

Students will also study the basics of acoustics and psycho acoustics from the standpoint of music technology.

Recommended year of study

1st year

Evaluation

By the teacher: pass/fail.

Instruction and study

Group instruction 120 hours

Methods

Group exercises 30 hours

Independent exercises 50 hours

Assignments from the teacher 67 hours

Performances

Class attendance

Completion of the assigned tasks

tp83 Musical Acoustics lecture series 1 (3 ECTS cr, 80 hrs.)

Learning outcomes

The student

- manages the general basic concepts of acoustics
- understands the basics of musical instrument acoustics
- understands the electroacoustic basics
- manages the basics of psychoacoustics
- manages the basics of concert hall and studio acoustics

tp84 Musical Acoustics lecture series 2 (3 ECTS cr, 80 hrs.)

Learning outcomes

The student

- deepens their knowledge of concert hall and studio acoustics
- understands the interaction between acoustics and architecture
- understands the importance of acoustics in installation and sound art

ts16 MASTER'S SEMINAR 1 (8 ECTS credits, 214 hours)

Learning outcomes

Students will

become familiar with the possibilities and demands, as well as learning techniques and applied environments of their master's studies.

become familiar with different styles of writing and their structures

have assessed the current level of their writing skills

become familiar with the basics of project management

Students will learn:

to choose and define their research topic

to write a research plan

about research methods and source criticism

about working methods and attitudes that will lead to a mature study process

Recommended year of study

First year of master's studies

Assessment

Teacher evaluation; pass/fail

Instruction and study

Instruction in small groups 60 hours

Individual instruction as necessary.

Independent work, including reading and writing analysis.

Method of completion

Active participation in coursework;

Assignments from the teacher.

Literature (compulsory):

Juha T Hakala, *Opinnäyte luovasti* or Juha T Hakala *Creative Thesis Writing*

ts17 MASTER'S SEMINAR 2 (8 ECTS credits, 214 hours)

Learning outcomes

Students will learn how to prepare and execute a thesis or another demonstration of proficiency through the following steps:

Choosing an appropriate method for the research topic and applying it in practice

Utilising methods of academic work and mind-sets; practice and reporting; systematic working methods

Treating source materials; documentation

Peer assessments of theses and project reports; feedback

Academic writing

Recommended year of study

Second year of master's studies

Assessment

Teacher evaluation; pass/fail

Instruction and study

Instruction in small groups 60 hours

Individual instruction as necessary.

Regular reports on the progress of the research or demonstration of proficiency and related documentation Seminar work, which includes writing a thesis according to the stylistic requirements of academic writing, presenting the work to the seminar group according to the schedule agreed upon with the teacher, plus peer assessments and discussions.

Method of completion

Active participation in coursework;

Exercises assigned by the teacher.

ts9 PHYSICAL COMPUTING (4 ECTS credits, 107 hrs)

Learning outcomes

At the end of this course, the students will have acquired basic knowledge and practical experience on physical computing and interaction design, that is, the concepts, practices, and tools involved in this field. They will have developed a way to apply this knowledge to one of their own artistic or technical projects.

Evaluation

Pass/fail

Planned for third year or more CM&T students and SOIN students

Instruction and study

Lectures and exercises 120 hours

Independent and group work with a project in physical computing.

Interaction, reflection

Performances

Completion of the project

otk BACHELOR'S DEMONSTRATION OF PROFICIENCY (10 ECTS credits, 267 hrs)

With the Demonstration of Proficiency, students demonstrate a command of the major subject and that they have achieved the learning outcomes of their major subject. The Demonstration of Proficiency consists of the following courses:

ts13 PROJECT (Bachelor of Music)

Learning outcomes

Students will learn to apply things learned from other courses into independent work; to report their work in an linguistically immaculate way; and to take account the schedule in independent work

Evaluation

By a 2-3-member jury on a scale of 0-5.

Preceding courses

A minimum of 60 ECTS credits in the major

kss-____ (Bachelor of Music) MATURITY ESSAY

The maturity essay is a written examination in which students demonstrate the competence required for the degree, studies and final project, and language proficiency as outlined in Section 6 of the Decree on University Degrees (794/2004). The maturity essay is included in both the bachelor's and the master's degrees.

Assessment

Pass/fail

otm1 MASTER'S THESIS (DEMONSTRATION OF PROFICIENCY) (20 ECTS credits, 534 hrs)

With the Demonstration of Proficiency, students demonstrate a command of the major subject and that they have achieved the learning outcomes of their major subject. Attainments included in the demonstration of proficiency: ts14 THESIS, MASTER'S DEGREE and kss-____ MATURITY ESSAY.

ts14 THESIS, MASTER'S DEGREE (20 op, 534 t)

Learning outcomes

Students will learn:

how to manage issues in large-scale in the field of music technology

how to acquire a research attitude
how to apply a scientific method to a subject of their choosing

Evaluation

On the basis of statements from two or three examiners on a scale of 0-5.

Preceding courses

ts16 MASTER'S SEMINAR 1 and

ts17 MASTER'S SEMINAR 2

Recommended year of study

5th year

otm2 MASTER'S DEMONSTRATION OF PROFICIENCY (LARGE-SCALE PROJECT)

With the Demonstration of Proficiency, students demonstrate a command of the major subject and that they have achieved the learning outcomes of their major subject. Attainments included in the demonstration of proficiency:

ts15 MASTER'S FINAL PROJECT (LARGE-SCALE PROJECT) and kss-____
MATURITY ESSAY.

ts15 MASTER'S FINAL PROJECT (LARGE-SCALE PROJECT) (20-40 op, 534-1068 t)

Learning outcomes

students will learn how to manage large-scale project planning, preproduction, budgeting, production, and evaluation

students will learn the appropriate division of work and working as a part of a group, in case it is a group production

Evaluation

0-5

Recommended year of study

5th-6th year

Performances

The student will write a thesis, which will demonstrate knowledge of the topic, be consistent and clear, and establishes proficiency for further studies. Four bound copies of the thesis are submitted for evaluation. The thesis must also include a separate abstract with information about the research problem, material, methods, and key results. An additional copy of the abstract is also to be submitted. The thesis includes a maturity test taken separately, demonstrating the student's command of the mother tongue and knowledge of the thesis subject. The maturity test is taken in conjunction with theory subject examinations.

Performances

Planning and implementation of the project

Written reports

tp20 MUSIC THEORY FOR MUSIC TECHNOLOGISTS (3 ECTS credits, 80 hrs)

Learning outcomes

Students will:

learn the music theoretical concepts and attributes of the technological era of culture

study the structural issues and the equipment or software used to perceive and process them.

Evaluation

Pass/fail

Instruction and study

Group instruction: 45 hours, independent work: 35 hours

Familiarity with the materials, set reading and assignments

Method of completion

I Class attendance

II Exercises assigned by the teacher

tä1 TECHNICAL SOLFÈGE (4 ECTS credits, 107 hrs)

After completing the course, the students will become competent in tasks that require analytical listening in the audio industry. Students will develop their perception and skills to analyse sound variables. Audio material will be examined from aesthetic, technical and physiological points of view. Students will use the acquired skills to edit audio material with the help of the technology at hand in order to achieve the desired outcome.

Evaluation

Pass/fail.

Instruction and study

Instruction in small groups: 30 hours

Methods

Assignments

Performances

Participation in the coursework and exercises

Submittal of exercises

tp39 INTRODUCTION TO CONTEMPORARY MUSIC (4 ECTS credits, 107 hrs)

Learning outcomes

Students will:

study the post-war history of art music and repertoire of various styles by reading scores, listening, and by reading background information

promote their understanding of modern composition work and performance of contemporary music

be able to take part in the creative process as a performer, recording engineer, producer, researcher, or in other roles.

Evaluation

Pass/Fail

Instruction and study

Group instruction: 40 hours

Listening and reading assignments: 67 hours

Method of completion

Active participation in coursework

Completion of the assigned tasks

tpr PROJECT (1–20 ECTS credits, 27–325 hrs)

Project can be completed several times

Learning outcomes

Students will learn how to recognize the area of work, how to complete a project in a controlled way, and how to report its progress. Contents and learning outcomes are agreed upon with the teacher managing the project. Objectives might include technologically- or artistically-focused recording, composing, reading literature, or programming.

Assessment

Pass/fail or on a scale of 0-5 (agreed upon with the supervisor)

Preceding courses

Agreed upon with the teacher

Instruction and study

Independent or group work according to the work plan accepted by the instructor for 27 hours per ECTS credit, guidance and studio time according to the project plan.

Performances

According to the project plan approved by the supervisor. Writing a report and handing it in to the instructor according to schedule.

tp54 RECORDING AND SOUND PRODUCTION PROJECT (3–18 ECTS credits, 80–481 hrs)

The project is a study module consisting of a practical and a literal part and is agreed upon with a supervisor nominated by the head of department. The project's subject should be related to student's degree program's syllabi. The aim is to produce an analytically focused, controlled, and supervised work in which the previously agreed upon knowledge and skill goals are fulfilled. The project could also consist of a literature project and seminar as well as small research projects.

Skill goals

Students will write a project work plan and receive the supervisor's approval for the project.

Evaluation

Pass/fail or 0-5 (agreed upon with the supervisor)

Preceding courses

Agreed upon with the supervisor

Instruction and study

Independent or group work according to the work plan accepted by the instructor for 27 hours per ECTS credit, guidance and studio time according to the project plan.

Performances

According to the project plan approved by the supervisor.

Report

ts5 ADVANCED STUDIES 1 (1-12 ECTS credits, 27-320 hrs)

Eligibility

Bachelor

Learning outcomes

Students will advance their knowledge of an aspect of music technology by utilizing the changing course selection provided by the degree program. The modules concentrate on current and professional working methods of the industry.

Evaluation

Pass/fail and a report from the trainer

Preceding courses

A minimum of 8 ECTS credits from the courses Recording and Sound Production 1, Electroacoustic Music 1, Media and sonic art 1, Tools of Music Technology course and at least 8 ECTS credits from the following modules, Recording and Sound Production 2, Electroacoustic Music 2, Media and sonic art 2, or equivalent proficiency, as determined by the teacher.

Recommended year of study

3rd year

Instruction and study

Individual instruction for a maximum of 2 hours per one ECTS credit, 2 – 24 hours

Group lessons 32-80 hours

Methods

Practice and reports

Performances

Class attendance

Subject-specific assignments

ts12 RESEARCH EXERCISE (5 ECTS credits, 134 hrs)**Learning outcomes**

Students will develop a research attitude towards their own work.

Students will be versed in writing documents about technical-scientific or humanistic subjects.

Evaluation

Pass/fail

Recommended year of study

3rd year

Instruction and study

Individual and group instruction 7 hours

Methods

Independent study 127 hours, of which approximately 40 hours of reporting

Performances

Class attendance

Completion of the assignment

Written reports

tp41 PRODUCTION EXERCISE (one completion, 1-20 ECTS credits, 27-534 hrs)

Students can complete several production exercises.

Learning outcomes

Students will:

advance their professional competence

learn how to work independently or in a group

develop their ability to plan, conduct, and document

Preceding courses

The teacher assesses each student's competence to carry out their plan.

Recommended year of study

3rd year and up.

Evaluation

Pass/fail and a report from the trainer

ts7 ADVANCED STUDIES 2 (1-60 ECTS credits, 27-1600hrs)**Learning outcomes**

Students advance their knowledge of an aspect of music technology by utilizing the changing course selection provided by the degree program. The modules concentrate on current and professional working methods of the industry.

Evaluation

Pass/fail and a report from the trainer

Preceding courses

Introduction to Advanced Studies

Recommended year of study

4th year

Instruction and study

Individual or group instruction for up to 2 hours per one ECTS credit but not more than 30 hours per academic year

Methods

Practice and reports

Performances

Class attendance

Subject-specific assignments

tp49 WORKSHOP (1-3 ECTS credits, 27 hours per study point)

Workshops can be taken several times.

Learning outcomes

Students will:

study a specially advertised theme under the guidance of an expert
advance their knowledge, i.e., of research or professional activities
develop their abilities to communicate and analyze

Evaluation

Teacher or teacher host/hostess evaluates.

Recommended year of study

Starting in the 2nd year, it is possible to attend several workshops.

Instruction and study

Tailored, sometimes singular lectures and/or small group instruction

Class rehearsals

Disassembly or demonstration event

Methods

Individual or group work

Reading the additional material, taking notes

Performances

Learning outcomes a and b

Active participation in coursework;

Completion of possible exercises;

Possible reporting.

Learning outcome c

Questioning the lecturer; participation in discussions.

tp65 PORTFOLIO (3 – 10 ECTS credits, 80- 267 hrs)

Learning outcomes

A supervisor selected from the group of regular teachers is appointed for each student in the degree program. The common goal is an individual study plan customized for each student to promote learning of key skills and motivate students to ensure that their study program meets a high standard and is well balanced.

Evaluation

The supervisor grades on a scale of 0-5 based on the student's activeness and contents of the portfolio.

Preceding courses

All studies

Instruction and study

Students plan, monitor and record their studies in meetings with the supervisor at least twice a year. The head of the department confirms the study rights. Any measures related to students and their study discipline are decided at the supervisors committee.

Methods

Portfolio

Performances

Students will document their work in a live portfolio.

tp52 SOUND PRODUCTION ASSISTANTSHIP (7–21 ECTS credits, 187–561 hrs)

The extent of this module is determined in each student's individual study plan. For example, the module can consist of working as a composer's assistant in an electroacoustic studio, planning and configuring digital and analogue equipment in live electronic performances, or studying problems of technology-based improvisation as a technical-artistic assistant.

Learning outcomes

Students will:

become capable of working as part of a team in executing musical or research projects

understand their tasks clearly and plan and execute their own role independently and reliably

In a group doing the project, students must be up-to-date with the project's technical, artistic, and social aspects and to master all of these skills.

Evaluation

By the teacher with the help of a colleague on a scale of 0-5

Instruction and study

Individual instruction for a maximum of 4 hours per one ECTS credit, 28–84 hours but not more than 30 hours

Methods

Individual work in projects 103–477 hours

Performances

Practice and planned work situations

Reports and documentation

**tp59 SOUND PRODUCTION AND RECORDING PRODUCTION
EXERCISE (1–20 ECTS credits, 27–534 hrs)**

The extent of this module is determined in each student's individual study plan. In the production exercise, students work independently or in groups.

Learning outcomes

In production practice, students will concentrate on a technical-artistic recording or audio project that is approved by the teacher and supports the student's major subject.

Evaluation

Pass/fail and a report from the trainer

Instruction and study

Individual tuition as required and a maximum of one hour per ECTS credit

Performances

Planning, implementation and documentation of the assignment. Students can complete several production exercises.