

Course Name	Introduction to Computer Music	ECTS Credits	2
Course Coordinator	dr Dominik Puk	Credit Hours Total	30
Faculty of	Composition, Conducting, Vocal Studies, Music Theory and Artistic Education	Course Type	Lecture/Applied Course
Institute of	Composition and Music Theory	Mode of Study	Full-Time Programme
Major	Composition, Music Theory	Profile of Study	General Academic
Specialisation	Composition, Music Theory	Language of Instruction	English
Cycle	First-Cycle Studies	Course Group	Core

COURSE PLACEMENT IN THE STUDY PLAN			
Semester 3	15 hours, Pass/Fail basis, 1 ECTS	Semester 4	15 hours, Pass/Fail basis, 1 ECTS

Instructor	dr Dominik Puk
Learning Aims and Objectives	The aim of the course is to familiarize students with the basic paradigms of computer music, fundamental knowledge and skills in the fields of electroacoustics, synthesis, digital sound recording and processing, use of instruments, and to present examples of their practical application in collaboration with music software.
Prerequisites	Basic computer skills

COURSE CONTENT	
Semester 3	
Explanation of the meaning of the term "computer music" and discussion of its characteristics Discussion of the physical parameters of sound and its distinctive features. Sound envelope ADC I DAC MIDI DAW VST Sound synthesis Sampling, introduction to sound recording Spatialisation and speaker systems Independent project implementation (musical composition) using DAW software and virtual instruments	
Semester 4	
A historical overview of the use of "computer music" CAC (Computer-Aided Composition) Introduction to generative music Introduction to algorithmic music	

	Learning Outcome Reference Code	LEARNING OUTCOMES	Descriptors	
			STAGE 2 OF PQF	STAGE 1 OF PQF
Knowledge	KTM1_W05	Student knows basic music terminology.	P6S_WG	P6U_W
	KTM1_W06	Student demonstrates knowledge of basic creative methods, techniques, technologies, tools, and methods of organizing sound material necessary in the process of composing a musical work and its analysis and interpretation	P6S_WG	P6U_W
Skills	KTM1_U01	Student is able to create and implement individual artistic concepts and possesses the skills necessary to express them.	P6S_UW P6S_UU	P6U_U
	KTM1_U05	Student has mastered effective techniques for practicing workshop skills, enabling continuous development through independent work	P6S_UU	P6U_U
Competence	KTM1_K01	Student is ready to collect, analyse, and interpret the necessary information	P6S_KK	P6U_K

TEACHING METHODS	
lecture, case study, individual work, group work, problem-solving sessions, other methods used by the instructor, distance learning	

LEARNING OUTCOME VERIFICATION METHODS	
Final Requirements – Successfully completed year, grading criteria	Learning Outcome Reference Code
project, presentation	KTM1_W05, KTM1_W06, KTM1_U01, KTM1_U05
review of prepared projects	
completion of the assigned task	
all other methods used by the instructor	

ASSESSMENT METHODS AND CRITERIA	
Course Completion Requirements	attendance at classes (acceptable absences in accordance with Study Regulations) achieving all the intended learning outcomes to an acceptable degree (graded test)

STUDENT WORKLOAD	Credit Hours Total	ECTS Credits
Contact hours with the instructor <i>(in-class contact, consultation hours)</i>	30	2
Hours of independent student work <i>(preparing for classes, tests, exams, presentations or project concerts)</i>	10	

Recommended Reading

W. Kotoński, *Muzyka elektroniczna*
 G. Nierhaus (ed.), *Patterns of Intuition: Musical Creativity in the Light of Algorithmic Composition*
 G. Nierhaus, *Algorithmic Composition: Paradigms of Automated Music Generation*
 M. Strzelecki, *Niech się stanie muzyka! O muzycznej generatywności*
 D. Smalley, *Spectromorphology: Explaining Sound-Shapes*
 D Smalley, *Spectro-Morphology and Structuring Processes*
 P. Kołodziej, *Komputerowe studio muzyczne i nie tylko. Przewodnik*
 P. Kirn, *Real World Digital Audio*

Supplementary Reading

S. Draga, *Podręcznik akustyki*
 C. Dodge, *Computer Music: Synthesis, Composition, and Performance*,
 C. Roads, *The Computer Music Tutorial*
 K. Krzysztof, *Kompozycja muzyczna w formach audiowizualnych, skrypt MSM UMFC*
 D. Milano, *Mind over MIDI*
 M. Stepień, *MIDI. Cyfrowy interfejs instrumentów muzycznych*
 Specialist magazines (e.g., *Estrada i Studio*, *Muzyk*, *Instrumenty klawiszowe*, *Keyboards*). User manuals for electronic musical devices and music software.
 B. Schaeffer, *Wstęp do kompozycji*

Virtual Libraries and On-Line Resources *(optional)*

Websites related to computer music, music hardware, and software (e.g., computermusicjournal.org, ircam.fr, midi.org, ema.wsu.edu, kvraudio.com)