

IGNACY JAN PADEREWSKI ACADEMY OF MUSIC IN POZNAŃ

Course Name	Sensors and Controllers	ECTS Credits	3
Course Coordinator	dr Michał Janocha	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 and Music Theory	Profile of Study	General Academic
Specialisation	Electroacoustic Composition	Language of Instruction	English
Cycle	First-Cycle Studies	Course Group	Core

COURSE PLACEMENT IN THE STUDY PLAN

Semester 1	15 hours, Pass/Fail basis, 1 ECTS	Semester 2	15 hours, Exam, 2 ECTS
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Instructor	dr Michał Janocha
Learning Aims and Objectives	The aim of the course is to acquire the skills and techniques necessary to work with devices used for advanced control of "live" electroacoustic sound. Students learn about the possibilities and technology that allow visual and movement events to be transformed into sound material, as well as how to perform artistic work on data provided by various sensors.
Prerequisites	Participants in this course have computer skills and a basic understanding of the Max/MSP environment.

COURSE CONTENT

Semester 1	
<ul style="list-style-type: none"> • Introduction to working with external controllers and sensors • Methods of transforming acquired data into sound material • Exercises – MIDI controllers • Exercises – graphics tablet and camera • Exercises – Leap Motion • Exercises – MYO armband • Exercises – smartphone 	
Semester 2	
<ul style="list-style-type: none"> • Basics of Sound Art • Sound installations – introduction • Basics of Arduino and working with sensors • Creating sound installations – exercises 	

	Learning Outcome Reference Code	LEARNING OUTCOMES	Descriptors	
			STAGE 2 OF PQF	STAGE 1 OF PQF
Knowledge	KTM1_W03	Student is aware of the complex and contextual nature of musical creativity and its historical variability.	P6S_WG	P6U_W
	KTM1_W04	Student has structured knowledge of musical creativity from a historical, stylistic, and systematic perspective, appropriate for the selected major.	P6S_WG	P6U_W
	KTM1_W05	Student knows basic musical terminology.	P6S_WG	P6U_W
	KTM1_W06	Student demonstrates knowledge of basic creative methods, techniques, technologies, tools, and ways of organizing sound material necessary in the process of composing a musical work and its analysis and interpretation.	P6S_WG	P6U_W
Skills	KTM1_U06	Student has basic skills in evaluating musical works.	P6S_UW P6S_UK	
	KTM1_U12	Student is able to use modern technological tools needed in the process of music creation.	P6S_UW	
Competence	KTM1_K01	Student is capable of collecting, analysing, and interpreting necessary information.	P6S_KK	P6U_K
	KTM1_K02	Student implements his own artistic concepts and activities based on diverse styles, resulting from the use of knowledge and creative imagination.	P6S_KK	P6U_K
	KTM1_K10	Student effectively uses imagination, intuition, creativity, and independent thinking when faced with the need to solve problems.	P6S_KK	
	KTM1_K12	Student is capable of conducting self-assessment, and has a sense of responsibility for one's own health and safety and that of others.	P6S_KK	

TEACHING METHODS

lecture solving artistic tasks individual work SWOT technique Problem-based learning (PBL)

LEARNING OUTCOME VERIFICATION METHODS

Final Requirements – Successfully completed year, grading criteria	Learning Outcome Reference Code
project, presentation	KTM1_W03, KTM1_W04, KTM1_U06, KTM1_K12
review of prepared projects	KTM1_W05, KTM1_K01, KTM1_K10
completion of the assigned task	KTM1_W06, KTM1_U12, KTM1_K02

ASSESSMENT METHODS AND CRITERIA

Course Completion Requirements	Proper completion of the assigned task
Exam Requirements	

STUDENT WORKLOAD	Credit Hours Total	ECTS Credits
Contact hours with the instructor <i>(classes, consultations)</i>	30	3
Hours of independent student work <i>(preparing for classes, graded test, exam, presentation, concert)</i>	12	

Recommended Reading

Włodzimierz Kotoński - *Muzyka elektroniczna*

Supplementary Reading

Mathews Max V. - *The Technology of Computer Music*

Puckette Miller - *The Theory and Technique of Electronic Music*

Virtual Libraries and On-Line Resources (optional)

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