Course title:	Introduction to Advanced Deep Learning Models
Course title in Polish:	Wprowadzenie do zaawansowanych modeli głębokiego uczenia
Course for discipline:	Information and Communication Technology

Semester:	7	**Status of course:**	faculty	**Language:**	english
Academic year:		**Catalog number:**			

Coordinator of course:	dr hab. Bartosz Świderski, prof SGGW	
Lecturer od course:	dr hab. Bartosz Świderski, prof SGGW	
Executing unit:	Institute of Information Technology	
Ordering unit:	Doctoral School SGGW	
Assumptions, goals and description of the course:	Introduction to advanced architectures of deep learning models (including transformer architecture, fundamentals of reinforcement learning, etc)	
Didactic form, number of hours:	exercise, 10 h	
Teaching methods:	Case study, project	
Limit of people in the group:	None (or limitations imposed by the room)	
Learning outcomes		
KNOWLEDGE - the graduate knows and understands:	**SKILLS - the graduate is able to:**	**COMPETENCES - the graduate is ready to:**
To the extent enabling to revise the existing pradigms in the field/discipline - the world achievments, gathering theoretical background as well as general and selected detailed issues	Carry out critical assessment of the scientific research findings and expert activities and their contribution to the knowledge development in the field/discipline	Critically evaluate the achievments in the field/discipline represented
Major general development trends in the field/discipline		Recognise knowledge in solving cognitive and practical problems characteristic for the area of research (field/discipline) and in an interdisciplinary aspect
		Support the ethos of scientific circles and conduct independent research
The method of verification of learning outcomes:	Assessment of the developed project (including its defense)	
Form of documentation of achieved learning outcomes:	Submitted work (report including, among others, the implemented project)	
Elements and weights of the final grade:	Final grade: Work-project 80%, 20% discussion and activity in classes	
Place of the course:	Lecture room: computer lab or remote classes	
Basic and supplementary literature		
Ian Goodfellow and Yoshua Bengio and Aaron Courville, Deep Learning, MIT Press, 2016, www.deeplearningbook.org		
Comments:		

Estimated number of hours of work of the doctoral student necessary to achieve the assumed learning outcomes:	25

Leraning outcomes reference to the second degree characteristics of the National Qualification Framework (level 8) covering doctoral competences:		
Symbol:	**Learning outcomes:**	**8 level NQF**
SD1_KW01	To the extent enabling to revise the existing pradigms in the field/discipline - the world achievments, gathering theoretical background as well as general and selected detailed issues	P8S_WG
SD1_KW02	Major general development trends in the field/discipline	P8S_WG
SD1_KU05	Carry out critical assessment of the scientific research findings and expert activities and their contribution to the knowledge development in the field/discipline	P8S_UW
SD1_KK01	Critically evaluate the achievments in the field/discipline represented	P8S_KK
SD1_KK03	Recognise knowledge in solving cognitive and practical problems characteristic for the area of research (field/discipline) and in an interdisciplinary aspect	P8S_KK
SD1_KK08	Support the ethos of scientific circles and conduct independent research	P8S_KR