COURSE UNIT (MODULE) DESCRIPTION

Course unit (module) title	Code
THE PROTECTION OF PERSONAL DATA PROCESSED BY BRAIN-LIKE INTELLIGENCE	

Lecturer(s)	Department(s)
Coordinator: dr. Daria Bulgakova **Other(s):**	Vilnius University, Faculty of Law, Center of Ukrainian Law Saulėtekio av. 9, Building 1, LT-10222, Vilnius, e-mail: dariabulgakova@yahoo.com

Study cycle	Type of the course unit (module)
Second	Optional

Mode of delivery	Course unit delivery period	Language(s) of instruction
Online	1 (autumn)/ 2 (spring) semester	English

Requirements for students	
Pre-requisites: none	**Co-requisites (if any):** none

Number of credits allocated	Total student's workload	Contact hours	Self-study hours
5	133	32	101

Purpose of the course unit (module): programme competences to be developed		
The course aims to enhance students' systematic understanding of regulatory and policy aspects for IoT & AI control, abilities to compare the legal mechanisms for the protection of personal data processed by brain-like intelligence, and to analyze the interaction of law with biometrics. Students' critical thinking is developed by proposing solutions for regulatory issues, discussing regulatory frameworks related to protection, security, privacy, trust challenges, as well as analyzing case law (*inter alia*, of the Court of Justice of the European Union) and policy debates about technology-neutral legal frameworks at domestic, European, International levels.		
Learning outcomes of the course unit (module)	**Teaching and learning methods**	**Assessment methods**
Students will be able to explore and found out the correlation of IoT & AI and to analyze how the processing of personal data with the help of machine learning can be protected, and how the respect of human dignity can be privileged and ensured.	A problematic method of teaching during lectures and seminars (the analysis of problematic practical issues, discussions), individual studies (critical literature reading)	Examination in written
Students will be able to identify key technology-neutral legal tools for data processing protection, security guarantees, privacy safeguards, and trust performance in cyberspace as well as to understand whether present legal standards and social indications are able to satisfy the interests of a person and e-commerce in the triad of scheme human-technology-business. Students will be able to master improvements in outdated legal standards and reflect brain-like intelligence in the legal service.	A problematic method of teaching during lectures and seminars (case analysis. working in group, discussions), individual studies (critical literature reading)	Examination in written
Students will be able to solve a problem of the legal protection of personal data processed by brain-like intelligence related to a) black-box society; b) e-services; c) 5G networks; d) mobile apps; e) self-driving cars; f) employees' control, - considering interests of an individual, the public, business, government, international community. Thus, students are intended to balance the interests involved between a) manufacturers – socium; b) intergovernmental & governmental & private business - citizens & citizens of third countries & non-citizens; c) providers - netizens; d) developers - users; e) sellers - buyers; f) employers - employees.	A problematic method of teaching during lectures and seminars (the analysis of problematic practical issues, case analysis), individual studies (critical literature reading).	Examination in written

Students will be able to independently develop and initiate updated regulations to technology-neutral law specialized in cyber-physical processing techniques of brain-like intelligence with attention paid to personal data protection with respect to safety, privacy, and security.	A problematic method of teaching during lectures and seminars (the analysis of problematic practical issues, case analysis), individual studies (critical literature reading).	Examination in written
Students will be able to apply acquired knowledge in practice of personal data protection by drawing conclusions on specific case-law examples.	A problematic method of teaching during lectures and seminars (the analysis of problematic practical issues, case analysis), individual studies (critical literature reading).	Examination in written
Students will understand industry-related comparative studies occurred in Lithuania, Ukraine, Netherlands, France, Italy, Germany, China, US, as well as to reflect on disputes molded in these countries.	A problematic method of teaching during lectures and seminars (the analysis of problematic practical issues, case analysis), individual studies (critical literature reading).	Examination in written

Content: breakdown of the topics	**Contact hours**							**Self-study: hours and assignments**	
	Lectures	Consultations	Seminars	Practical sessions	Laboratory activities	Internship/work placement	**Contact hours**	**Self-study hours**	**Assignments**
1. Digitized Legal Identity and Unique Identification	4		6				**10**	**21**	Reading academic literature and main legal sources. Analysis of relevant cases in the court practice.
2. Legal aspects of 5G & IoT in comparative context	2		2				**4**	**16**	Reading academic literature and main legal sources. Analysis of relevant cases in the court practice. Optional - selecting a specific sub-set of regulatory issues in a focus area and defending presentation.
3. Profiling Agreement, Data Commodification and Quantified-Self Personification	2		2				**4**	**16**	Reading academic literature and main legal sources. Analysis of relevant cases in the court practice. Optional - selecting a specific sub-set of regulatory issues in a focus area and defending presentation.
4. The Regulation of Privacy Enhanced Technologies	2		2				**4**	**16**	Reading academic literature and main legal sources. Analysis of relevant cases in the court practice. Optional - selecting a specific sub-set of regulatory issues in a focus area and defending presentation.
5. The Protection of Personal Data of the Deceased	2		2				**4**	**16**	Reading academic literature and main legal sources. Analysis of relevant cases in the court practice. Optional - selecting a specific sub-set of regulatory issues in a focus area and defending presentation.
6. Application of Brain-Like Intelligence in Legal Activities	2		4				**6**	**16**	Reading academic literature and main legal sources. Analysis of relevant cases in the court practice. Optional - selecting a specific sub-set of regulatory issues in a focus area and defending presentation.
Total	**14**		**18**				**32**	**101**	

Assessment strategy	**Weight, percentage**	**Assessment period**	**Assessment criteria**
Examination in written	100	During the examination session	Two practical situations related to be solved by the students in written, where students are expected to demonstrate the advanced theoretical knowledge of the issues studied during the course, conceptual understanding of the complexities of personal data protection, IoT and AI

			regulatory frameworks and the case law of the Court of Justice of the European Union, the case law of Member-States of the EU, legislative and practical experiences of China, US in comparative context. Final exam is evaluated by the 10 points assessment criteria for the final evaluation: • 10 points (excellent), excellent knowledge and abilities; • 9 points (very good), strong, good knowledge and abilities; • 8 points (good), better than average knowledge and abilities; • 7 points (average), average knowledge and abilities, with minor mistakes; • 6 points (satisfactory), knowledge and abilities are lower than medium, includes some mistakes; • 5 points (weak), knowledge and abilities satisfies minimal requirements; • 4-1 points – unsatisfactory.

Author	Year of publication	Title	Issue of a periodical or volume of a publication	Publishing place and house or web link
Compulsory reading				
F. Q. Nguyen	2018	The standard for biometric data protection	7 (1)	Journal of Law & Cyber Warfare
J. L. Blanch & S. S. Christensen	2018	Biometric basics: Options to gather data from digital devices locked by a biometric key	66 (1)	United States Attorneys' Bulletin
T. Jakupak & Z. Breges	2020	Digitalization: Balance and protection - state-of-the-art	7 (2)	InterEULawEast: Journal for International and European Law, Economics and Market Integrations
E. McClellan	2020	Facial recognition technology: Balancing the benefits and concerns	15 (2)	Journal of Business and Technology Law
S. Poudel	2016	Internet of things: Underlying technologies, interoperability, and threats to privacy and security	31 (Annual Review 2016)	Berkeley Technology Law
E. Terryn & V. Gool	2021	The Role of European Consumer Regulation in Shaping the Environmental Impact of E-Commerce	3 (2021)	Journal of European Consumer and Market Law
C. Busch et al.	2021	The Premature Obsolescence of the New Deal for Consumers	3 (2021)	Journal of European Consumer and Market Law
C. Busch & V. Mak	2021	Putting the Digital Services Act in Context: Bridging the Gap between EU Consumer Law and Platform Regulation	3 (2021)	Journal of European Consumer and Market Law
R. Fumerton	2017	The costs and benefits of profiling	15 (Special Issue)	Georgetown Journal of Law & Public Policy
P. R. Stephenson	2020	Adversarial machine learning: The coming legal storm	8 (2)	Legal Issues Journal
S. McJohn & I. McJohn	2020	Fair use and machine learning	12 (1)	Northeastern University Law Review
T. Szadeczky	2018	Enhanced functionality brings new privacy and security issues - an analysis of eid	12 （1）	Masaryk University Journal of Law and Technology
M. Monajemi	2018	Privacy regulation in the age of biometrics that deal with a new world order of information	25 (2)	University of Miami International and Comparative Law Review
M. D. Reijneveld	2017	Quantified self, freedom, and the gdpr	14 (2)	SCRIPTed: Journal of Law, Technology and Society
B. Ibiricu & M. Leena van der Made	2020	Ethics by design: a code of ethics for the digital age	30 (3)	Records Management Journal
K. A. Wong	2020	The face-id revolution: The balance between	20 (1)	Journal of High

		pro-market and pro-consumer biometric privacy regulation		Technology Law
L. Somaini	2020	Regulating the dynamic concept of non-personal data in the eu: From ownership to portability	6 (1)	European Data Protection Law Review
A. Boerding et al.	2018	Data ownership - a property rights approach from a european perspective	11 (2)	Journal of Civil Law Studies
M. Legg F. Bell	2019	Artificial intelligence and the legal profession: Becoming the ai-enhanced lawyer	38 (2)	University of Tasmania Law Review
C. Nunez	2017	Artificial Intelligence and Legal Ethics: Whether AI Lawyers Can Make Ethical Decisions, 20 Tulane Journal of Technology and Intellectual Property	20	Tulane Journal of Technology and Intellectual Property
A. Elia	2019	Automation of non-disclosure agreements: A roadmap for a legal department to gain advantage using ai (artificial intelligence)	12 (48)	International In-House Counsel Journal
G. Kasap	2021	Can artificial intelligence ("ai") replace human arbitrators? technological concerns and legal implications	2021 (2)	Journal of Dispute Resolution
Recommended reading				
F. Pasquale	2015	The Black Box Society: The Secret Algorithms that Control Money and Information		Harvard University Press
D. Weber & R. Schutte	2019	State-of-the-art and adoption on artificial intelligence in retailing	21 (3)	Digital Policy, Regulation and Governance
N. Petersen	2020	Alexy and the "german" model of proportionality: Why the theory of constitutional rights does not provide a representative reconstruction of the proportionality test	21 (2)	German Law Journal
A. Kirk	2019	Artificial Intelligence and the Fifth Domain	80	Air Force Law Review
M. J. Ryan	2020	Escaping the fingerprint crisis: A blueprint for essential research	2020 (3)	University of Illinois Law Review
E. A. Brown	2020	A healthy mistrust: Curbing biometric data misuse in the workplace	23 (2)	Stanford Technology Law Review
N. Silver	2012	The Signal and The Noise: Why so many predictions fail – but some don't?		The Penguin Press, New York
E. Kahana	2018	Rise of the intelligent information brokers: Role of computational law applications in administering the dynamic cybersecurity threat surface in iot	19 (2)	Minnesota Journal of Law, Science and Technology
K. A. Wong	2020	The face-id revolution: The balance between pro-market and pro-consumer biometric privacy regulation	20 (1)	Journal of High Technology Law
B. Cardan	2017	The profiling technique in forensic investigations	2017 (2)	Studia Universitatis Babes-Bolyai Jurisprudentia
V. Spears	2019	Machine learning	2 (1)	The Journal of Robotics, Artificial Intelligence & Law
A. Deng	2018	An antitrust lawyer's guide to machine learning	32 (2)	Antitrust
W. Price & A. K. Rai	2021	Clearing opacity through machine learning	106 (2)	Iowa Law Review
P. K. Yu	2020	The algorithmic divide and equality in the age of artificial intelligence	72 (2)	Florida Law Review
O. Tene & J. Polonetsky	2017	Taming the golem: Challenges of ethical algorithmic decision-making	19 (1)	North Carolina Journal of Law & Technology
K. Ho	2021	The faux pas in modern competition law - walled gardens, data sharing and algorithmic decision making	3 (1)	De Lege Ferenda
K. Manwaring	2017	Kickstarting reconnection: An approach to legal problems arising from emerging	22 (1)	Deakin Law Review

		technologies		
C. Geczy et al.	2017	In pursuit of good & gold: Data observations of employee ownership & impact investment	40 (2)	Seattle University Law Review
L. Chiu & E. W. Lim	2021	Managing corporations' risk in adopting artificial intelligence: A corporate responsibility paradigm	20 (2)	Washington University Global Studies Law Review
M. Humerick	2018	Taking ai personally: How the e.u. must learn to balance the interests of personal data privacy & artificial intelligence	34 (4)	Santa Clara High Technology Law Journal
M. MacCarthy	2018	Enhanced privacy duties for dominant technology companies	12 (1)	Masaryk University Journal of Law and Technology
T. S. Hall	2014	The quantified self-movement: Legal challenges and benefits of personal biometric data tracking	7 (1)	Akron Intellectual Property Journal
R. Wilka	2018	Privacy Commitments	93	Washington Law Review Online
G. Day & A. Stemler	2019	Infracompetitive privacy	105 (1)	Iowa Law Review
F. Viel	2018	Not all personal data breaches have the same impact on our data protection and privacy	3 (8)	International Journal for the Data Protection Officer, Privacy Officer and Privacy Counsel
L. Colonna	2020	Privacy, Risk, Anonymization and Data Sharing in the Internet of Health Things	20	Pittsburgh Journal of Technology Law and Policy
L. A. Seventko	2019	GDPR: Navigating Compliance as a United States Bank	23	North Carolina Banking Institute
J. McNealy & H. Shoenberger	2016	Reconsidering Privacy-Promising Technologies	19	Tulane Journal of Technology and Intellectual Property
Y. Chen	2020	Your face is a commodity, fiercely contract accordingly: Regulating the capitalization of facial recognition technology through contract law	34 (2)	Notre Dame Journal of Law, Ethics & Public Policy
L. Leite. et al.	2021	The impact of general data protection regulation on software engineering practices		Information and Computer Security Journal
C. S. Dodson	2020	Distinguishing between reliable and unreliable eyewitnesses	104 (1)	Judicature
D. M. Rumschik et al.	2021	Identification and Interpretive Testimony from Photo/Video Evidence: The Coming Battle of Experts over Facial Recognition	20	Appalachian Journal of Law
L. R. Yordy	2021	The library of babel for prior art: Using artificial intelligence to mass produce prior art in patent law	74 (2)	Vanderbilt Law Review
R. C. Anderson & W. A. Gagnon	2018	Client identification: Foundational and unique to the ethical practice of elder and special needs law	14 (Special Edition)	NAELA Journal