Law and Economics

Course description sheet

Basic information

Field of study Geospatial Computer Science **Major** Remote Sensing and GIS **Organisational unit** Faculty of Geo-Data Science, Geodesy, and Environmental Engineering **Study level** Second-cycle (engineer) programme **Form of study** Full-time studies **Profile** General academic	**Didactic cycle** 2024/2025 **Course code** DGEITGS.IIi4.07234.24 **Lecture languages** English **Mandatoriness** Obligatory **Block** General Modules **Course related to scientific research** Yes

Course coordinator	Jarosław Bydłosz
Lecturer	Jarosław Bydłosz

Period	**Method of verification of the learning outcomes**	**Number of ECTS credits**
Semester 3	Completing the classes **Activities and hours** Lectures: 30 Seminars: 30	5

Goals

C1	Learning basic knowledge of economics
C2	Learning basics of law and legal systems
C3	Learning economic and legal issues in the context of geoinformation

Course's learning outcomes

Code	Outcomes in terms of	Learning outcomes prescribed to a field of study	Methods of verification
Knowledge – Student knows and understands:			
W1	courses concerning geodetic science and present world trends in geodetic science around the world.	GEI2A_W03	Oral answer
W2	standards and legal regulations concerning Land Administration and Cadastre.	GEI2A_W08	Oral answer
W3	land administration systems in various countries and data type included there.	GEI2A_W04	Oral answer
W4	Land Administration, Cadastre and its international aspects.	GEI2A_W08	Activity during classes, Participation in a discussion, Scientific paper
Skills – Student can:			
U1	read literature in English language and prepare short presentation in English on subjects concerning various disciplines of geodetic science and analyze and compare methods, systems and procedures in various countries basing on literature in Polish and English.	GEI2A_U08	Activity during classes, Participation in a discussion, Scientific paper
U2	apply communication and information technology in researches concerning geodetic science and other technical disciplines	GEI2A_U08	Presentation
Social competences – Student is ready to:			
K1	to be creative in popularization of modern science and technology achievements , including geodetic science.	GEI2A_K04	Activity during classes, Participation in a discussion, Involvement in teamwork

Program content ensuring the achievement of the learning outcomes prescribed to the module

The purpose of the course is to acquaint students with legal, economic and social aspects of remote sensing

Student workload

Activity form	Average amount of hours* needed to complete each activity form
Lectures	30
Seminars	30
Preparation for classes	30
Contact hours	5
Preparation of project, presentation, essay, report	30

Student workload	**Hours** 125
Workload involving teacher	**Hours** 60

* hour means 45 minutes

Program content

No.	Program content	Course's learning outcomes	Activities
1.	Economics - basic definitions and concepts.	W2, W4, U1, K1	Lectures
2.	Economic theories, systems and indicators.	W2, W4, U1, K1	Lectures
3.	Terms and definitions: geodata, geoinformation, official geodata, official geodata of proprietary nature, official geodata binding public authorities, geospatial reference data, geospatial metadata, geodata services	W1, W2, W3, W4, U2, K1	Lectures
4.	Public tenders in field of geoinformation: Public tenders in the field of geoinformation on the example of an unlimited tender. Understanding the formal conditions and technical conditions for the service. Comparison of prices of submitted offers, comparison of minimum, average and maximum prices, price reference to the unit of area.	W1, U1, U2, K1	Seminars
5.	Legal aspect of geoinformation: Types of geoinformation from the point of view of their legal status. Spatial data on the nature of public registers. Information about the environment as a special case of public information. Legal regulations regarding access to geoinformation. Act on spatial information infrastructure and its implications in legal regulations in the field of geodesy and cartography. Status of Photogrammetry and Remote Sensing in the regulations in the field of geodesy and cartography. INSPIRE specification for the "orthoimagery" theme. Data models in UML notation. Copyright to the map and database.	W1, W2, W3, W4, U2, K1	Lectures
6.	INSPIRE data Specification on Orthoimagery: Comparison of INSPIRE specifications - Orthoimagery with the Polish regulation on orthophotomaps.	W1, U1, U2, K1	Seminars
7.	INSPIRE Data Specification on Elevation: Comparison of INSPIRE specifications - Elevation with the Polish regulation on Digital Terrain Model and Digital Surface Model	W1, U1, U2, K1	Seminars
8.	Economic aspects of geoinformation: Geoinformation as an element of the economy. Geoinformation in shaping space. Costs of acquiring geodata by selected techniques. The relationship of detail and accuracy with the costs. Prices of data and geoinformation services. Public funds, public order, a common vocabulary of orders.	W1, W2, W3, W4, U2, K1	Lectures
9.	Remote Sensing Policies across the world: the National Data Security Policy for Space-Based Earth Remote Sensing on exapmles in choosen countries (US, Canada, Germany)	W1, W2, W3, W4, U2, K1	Lectures

Extended information/Additional elements

Teaching methods and techniques :

Discussion, Lectures

Activities	Methods of verification	Credit conditions
Lectures	Activity during classes, Participation in a discussion, Scientific paper, Involvement in teamwork, Presentation, Oral answer	
Seminar classes	Activity during classes, Participation in a discussion, Scientific paper, Involvement in teamwork, Presentation, Oral answer	

Conditions and the manner of completing each form of classes, including the rules of making retakes, as well as the conditions for admission to the exam

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Method of determining the final grade

Evaluation of: individually preparated presentation concerning choosen INSPIRE data specification and results of test. The final mark equals the mean of evaluations.

Manner and mode of making up for the backlog caused by a student justified absence from classes

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Prerequisites and additional requirements

Basic knowledge of English language in reading and writing.

Rules of participation in given classes, indicating whether student presence at the lecture is obligatory

Lectures: Studenci uczestniczą w zajęciach poznając kolejne treści nauczania zgodnie z syllabusem przedmiotu. Studenci winni na bieżąco zadawać pytania i wyjaśniać wątpliwości. Rejestracja audiowizualna wykładu wymaga zgody prowadzącego. Seminar classes: Studenci prezentują na forum grupy temat wskazany przez prowadzącego oraz uczestniczą w dyskusji nad tym tematem. Ocenie podlega zarówno wartość merytoryczna prezentacji, jak i tzw. kompetencje miękkie.

Literature

Obligatory

1. https://www.gislounge.com/spatial-law-and-geospatial-technologies/
2. http://www.geospatialworldforum.org/2012/modeling.htm
3. http://inspire.jrc.ec.europa.eu/

Scientific research and publications

Publications

1. Visual perception of property rights in 3D / Kornelia GRZELKA, Agnieszka BIEDA, Jarosław BYDŁOSZ, Anna KONDAK // ISPRS International Journal of Geo-Information [Dokument elektroniczny]. — Czasopismo elektroniczne ; ISSN 2220-9964. — 2023 vol. 12 iss. 4 art. no. 164, s. 1-20. — Wymagania systemowe: Adobe Reader. — Bibliogr. s. 18-20, Abstr.. — Publikacja dostępna online od: 2023-04-12. — tekst: https://www.mdpi.com/2220-9964/12/4/164/pdf?version=1681385853

2. Kataster 3D w Polsce i na świecie — 3D cadastre in Poland and around the world / Jarosław BYDŁOSZ // W: Prawo własności warstwowej : zagadnienia wybrane / red. nauk. Jacek Jaworski, Bogumił Szmulik. — Warszawa : Instytut De Republica, 2022. — (Monografie Instytutu De Republica / PRAWO). — Materiały z konferencji naukowej "Prawo budowlane - prawo własności warstwowej" : [19–21 września 2021, Gdańsk, Polska]. — ISBN: 978-83-67253-23-9. — S. 255–279. — Bibliogr. s. 274–279, Streszcz., Abstr.
3. Methodology for the development of LADM country profiles / Eftychia Kalogianni, [et al.], Jarosław BYDŁOSZ, [et al.] // Land Use Policy ; ISSN 0264-8377. — 2021 vol. 105 art. no. 105380, s. 1–12. — Bibliogr. s. 11–12, Abstr.. — tekst: https://www.sciencedirect.com/science/article/pii/S0264837721001034
4. Developing a UML model for the 3D cadastre in Poland / Jarosław BYDŁOSZ, Agnieszka BIEDA // Land [Dokument elektroniczny]. — Czasopismo elektroniczne ; ISSN 2073-445X. — 2020 vol. 9 iss. 11 art. no. 466, s. 1–16. — Wymagania systemowe: Adobe Reader. — Bibliogr. s. 13–16, Abstr.. — Publikacja dostępna online od: 2020-11-20. — tekst: https://www.mdpi.com/2073-445X/9/11/466/pdf
5. Aspekty prac nad nową edycją normy ISO 19152 — Aspects of works on ISO 19152 new edition / Jarosław BYDŁOSZ // Przegląd Geodezyjny ; ISSN 0033-2127. — 2018 R. 90 nr 7, s. 16–17. — Bibliogr. s. 17
6. Przyszłe kierunki normalizacji w katastrze — Standardisation in cadastre – future directions / Jarosław BYDŁOSZ // Roczniki Geomatyki = Annals of Geomatics / Polskie Towarzystwo Informacji Przestrzennej ; ISSN 1731-5522. — 2018 t. 16 z. 2, s. 89–98. — Bibliogr. s. 95–98, Streszcz., Abstr.. — Publikacja dostępna online od: 2018-05-15. — tekst: http://rg-1ptip-1org-1pl-18uf60tbw009c.wbg2.bg.agh.edu.pl/index.php/rg/article/view/RG2018-2-Bydlosz/1728
7. The implementation of spatial planning objects in a 3D cadastral model / Jarosław BYDŁOSZ, Agnieszka BIEDA, Piotr PARZYCH // ISPRS International Journal of Geo-Information [Dokument elektroniczny]. — Czasopismo elektroniczne ; ISSN 2220-9964. — 2018 vol. 7 iss. 4 art. no. 153, s. 1–14. — Wymagania systemowe: Adobe Reader. — Bibliogr. s. 12–14, Abstr.. — Publikacja dostępna online od: 2018-04-18. — tekst: https://www.mdpi.com/2220-9964/7/4/153/pdf

Learning outcomes prescribed to a field of study

Code	Content
GEI2A_K04	aktywnego i kreatywnego współdziałania w zespole oraz efektywnego kierowania nim.
GEI2A_U08	pozyskiwać informacje ze specjalistycznej dokumentacji technicznej, literatury przedmiotu, baz wiedzy i innych źródeł, a także wyciągać wnioski oraz formułować i uzasadniać opinie; posługiwać się językiem obcym w stopniu wystarczającym (na poziomie B2+).
GEI2A_W03	zaawansowane metody i techniki, w tym teledetekcyjne, stosowane do pozyskiwania i przetwarzania danych przestrzennych i środowiskowych na potrzeby geoinformacji.
GEI2A_W04	zasady modelowania i wizualizacji obiektów i zjawisk przestrzennych, tworzenia i wykorzystywania tematycznych baz danych, w tym baz danych przestrzennych oraz korzystania z systemów zarządzania nimi.
GEI2A_W08	wybrane aspekty społeczne, ekonomiczne i prawne w zakresie funkcjonowania społeczeństwa geoinformacyjnego.