University of Gdańsk

Subject card

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|---|---|---|---|---|---|---|---|
| Subject name and code | Logistics, Mobility and the Environment , PG_00200417 | | | | | | |
| Field of study | Logistics and Mobility | | | | | | |
| Date of commencement of studies | October 2026 | | Academic year of realisation of subject | 2028/2029 | | | |
| Education level | Bachelor's studies | | Subject group | Obligatory subject group in the field of study<br>Subject group related to scientific research in the field of study | | | |
| Mode of study | full-time studies | | Mode of delivery | at the university | | | |
| Year of study | 3 | | Language of instruction | English | | | |
| Semester of study | 5 | | ECTS credits | 3.0 | | | |
| Learning profile | academic | | Assessment form | credit | | | |
| Conducting unit | | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr hab. Monika Bąk | | | | |
| | Teachers | | | | | | |
| Lesson types | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 15.0 | 15.0 | 0.0 | 15.0 | 0.0 | 45 |
| | E-learning hours included: 0.0 | | | | | | |
| Learning activity and number of study hours | Learning activity | Participation in didactic classes included in study plan | | Participation in consultation hours | Self-study | SUM | |
| | Number of study hours | 45 | | 0.0 | 30.0 | 75 | |
| Subject objectives | This course will examine the relationship between logistics, mobility, and their environmental impacts. Students will analyse how logistics operations affect land, air, and marine ecosystems while also understanding how environmental factors shape logistics practices. By utilising realworld case study examples of development projects and their Environmental Impact Assessment (EIA) reports, the course covers key environmental challenges, regulatory frameworks, and strategies for mitigating ecological footprints in the logistics industry. | | | | | | |

## Learning outcomes

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [LML3_U05] uses normative systems (legal, professional, ethical) to solve a specific logistics or mobility task | students will apply legal, professional, and ethical standards to solve specific logistics or mobility challenges. | [SU2] presentation/project/paper/ report |
| [LML3_W04] knows the types of economic and social ties and the regularities governing them, has knowledge of the ties between companies requiring logistics support or providing logistics services | students will understand the intricate relationship between logistics, mobility, and environmental impacts, analysing how logistics operations affect ecosystems. Students can discuss related dilemmas during consultations. | [SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report |
| [LML3_K05] identifies, diagnoses and resolves correctly the dilemmas and various options for solutions, related to the performance of the profession | students will develop practical skills by examining real-world case studies. | [SK2] presentation/project/paper/ report |
| [LML3_K06] is ready to be guided in his professional life by business ethics and corporate social responsibility, respect for others and be loyal to his employer | students will be prepared to contribute to sustainable logistics solutions in the future. | [SK2] presentation/project/paper/ report |
| [LML3_W03] has advanced knowledge of the relationship between business entities and public institutions operating in the national, international and intercultural sphere, understands the importance of logistics and mobility for their functioning | students understand how logistics and mobility shape interactions between businesses and public institutions across different contexts. | [SW2] presentation/project/paper/ report |
| [LML3_W02] has advanced knowledge of different types of entities that require logistics support or provide logistics services | students have advanced knowledge of various types of entities that require or provide logistics support. | [SW2] presentation/project/paper/ report |

## Subject contents

1. Environmental Impact Reports (EIRs) in Logistics Projects Part 1
Introduction to the concept and purpose of Environmental Impact Reports (EIRs) and their significance in assessing potential ecological effects of logistics and mobility projects.
Components of an EIR: screening, scoping, assessment, and reporting.
Factors evaluated in EIRs, including air quality, habitat disruption, noise, and water pollution.
Regulatory requirements for EIRs in different jurisdictions.
Review of a sample EIR for a proposed logistics project to understand the assessment process.
2. Environmental Impact Reports (EIRs) in Logistics Projects Part 2
Continued exploration of EIRs with a focus on implementation and compliance.
Role of EIRs in project approvals and their use in setting environmental standards.
How EIRs inform mitigation strategies and decision-making processes in logistics and mobility projects.
Discussion on public participation and stakeholder engagement in the EIR process.
3. Environmental Impacts of Marine Logistics: Shipping and Seaports
Marine pollution from oil spills, ballast water discharge, and ship emissions ($CO_2$).
Effects on marine ecosystems, including coral reefs and endangered species habitats.
Coastal degradation and pollution related to port activities.
Overview of international regulations, such as the MARPOL Convention.
Examination of green port initiatives and marine safety measures to reduce ecological footprints.
4. Environmental Impacts of Air Freight and Aviation in Logistics
High levels of greenhouse gas emissions due to fuel consumption in aviation.
Noise pollution and its effects on nearby communities and wildlife.
Air quality issues from emissions near major airport hubs.
Implementation of alternative aviation fuels and fuel-efficient aircraft technologies.
5. Environmental Impacts of Land-Based Logistics: Highways, Railways, and Urban Freight
Land degradation and habitat fragmentation due to highway and railway infrastructure.
Emissions from freight vehicles and their impact on urban air quality.
Noise pollution and traffic congestion in urban logistics networks.
Designing green infrastructure to minimise ecological damage.
6. Climate Change Resilience in Logistics and Mobility Infrastructure
Overview of how logistics networks are adapting to climate change risks, including resilience in the face of extreme weather events.
Examples of climate-adapted infrastructure such as flood-proof ports and heat-resistant railways.
Discussion on frameworks for assessing climate resilience in logistics systems.
7. Regulatory Frameworks for Environmental Protection in Logistics
Study international, regional, and local regulations governing environmental standards in logistics and mobility.
Overview of compliance strategies for logistics operators to meet environmental regulations.
Examination of case studies demonstrating successful regulatory compliance in logistics projects.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="2"></td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Report</td><td>50.0%</td><td>70.0%</td></tr>
<tr><td>Presentation</td><td>50.0%</td><td>30.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Davenport, J., & Davenport, J. L. (Eds.). (2006). The Ecology of Transportation: Managing<br>Mobility for the Environment. Springer Netherlands. https://doi.org/10.1007/1-4020-4504-2<br>Joseph, K., Eslamian, S., Ostad-Ali-Askari, K., Nekooei, M., Talebmorad, H., & Hasantabar-Amiri,<br>A. (2019). Environmental Impact Assessment as a Tool for Sustainable Development. In W. Leal<br>Filho (Ed.), Encyclopedia of Sustainability in Higher Education (pp. 19). Springer International<br>Publishing. https://doi.org/10.1007/978-3-319-63951-2_170-1</td></tr>
<tr><td>Supplementary literature</td><td>Bąk, M. (2024). Transformacja energetyczna i ekologiczna transportu w ujęciu nowej ekonomii instytucjonalnej. W M. Cichosz & M. Wolański (red.), Sektory mobilności i logistyki w nowych ramach działania (s. 6996). Szkoła Główna Handlowa w Warszawie.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2"></td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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