Course Numbering	
Year	First semester 2026
Subject (J)	Basic of Natural Disaster Science and Its Application for BOSAI
Subject	
Credit(s)	2Credits
Instructor	MAS SAMANEZ ERICK ARTURO
Media Class Subjects	
Essential Subjects	Basics of disaster science and its application for BOSAI
Language of Instruction	English
Course Objectives and Summary/ Learning Goals (J)	- Systematically understand key themes in disaster science (tsunamis, evacuation, Earth observation, probability theory, reconstruction, education/humanities, Natech, etc.). - Cultivate logical explanatory skills and critical thinking through group analysis and presentations. - Faculty from various fields will deliver lectures in an omnibus format covering topics ranging from global disaster overviews to tsunami modeling and evacuation planning, remote sensing, probability theory, reconstruction, museums, healthcare, cognition and education, history and anthropology, and chain disasters and Natech. - Students will synthesize the lecture content and deliver group presentations in the final week. - Learn concepts and case studies in each lecture, organize questions, and participate in discussions. - Set a theme as a group, collect and organize relevant information, analyze it, and compile findings into a proposal. - Clearly demonstrate rationale, limitations, and future challenges in the final presentation and report.
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Relevance to Other Subjects/Considerations for Taking the Class (J)	
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Course Description (J)	TENTATIVE SCHEDULE Week 1 : Course Introduction, Assignment, and Definitions for this course Week 2 : Overview of Disasters in the World Week 3 : Tsunami Modeling and Applications Week 4 : Tsunami Evacuation Planning and Simulation Week 5 : Earth Observation Techniques for Disaster Management Week 6 : Probabilistic methods for Disaster Science Week 7 : Issues in post-disaster reconstruction Week 8 : Disaster Memorial Museums Week 9 : AI-Driven Photogrammetry and Remote Sensing for Urban Monitoring and Disaster Science Week 10 : Medical assistance in large-scale disasters Week 11 : Cognitive sciences and educational practice in disaster Week 12 : Disaster History and Anthropology Week 13 : Cascading disasters and Natech risk management Week 14 : Final presentation by student groups
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Preparation and Review(J)	
Preparation and Review	51 Approaches to Disaster Science: Lessons from the Great East Japan Earthquake https://irides.tohoku.ac.jp/eng/publication/51approaches_en.html
Evaluation methods and criteria (J)	A. Presentation (100pts, 40% of total grade) - Delivery (40pt): Clarity, engagement, visuals - Q&A Interaction (30pt): Response, engagement (participation) - Creativity (30pt): Unique insights, innovative approach B. Report (100pts, 40% of total grade) - Content and Analysis (40pt): Research depth, relevance to the objective, diversity in sources - Organization and Structure (20pt): Logical flow, formatting, visual aids - Critical Thinking and Insights (40pt): Analysis of data, conclusions, recommendations C. Attendance (100pts, 20% of total grade)
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Textbooks and references

Title	Author	Publisher	Year	ISBN/ISSN	Classification

URL	
Attached File	
Office Hours(J)	
Office Hours	
Contact： Please insert '@' in the email address.	研究科Webサイトに掲載されている連絡先一覧から確認すること。 Please check with the contact list posted on the Graduate School website.
Notes	
Practical Skill/Hands-on Class	
Other Comments/Instructions	
Last Update	

One-credit courses require 45 hours of study. In lecture and exercise-based classes, one credit consists of 15-30 hours of class time and 30-15 hours of preparation and review outside of class. In laboratory, practical skill classes, one credit consists of 30-45 hours of class time and 15-0 hours of preparation and review outside of class.