

JOINT COURSE SYLLABUS

Resilience for Sustainable Business Development

Universidad del Desarrollo · Laurea University of Applied Sciences

This syllabus reflects a joint international course co-offered by Universidad del Desarrollo (Chile) and Laurea University of Applied Sciences (Finland). The course is delivered collaboratively across both institutions, drawing on expertise in resilience, sustainability, and crisis management from both academic communities.

A. General Information

Academic Unit	School of Engineering
Program	Engineering
Code	DRI364
Location in the curriculum	5 th Year
Credits	10
Type of course	Elective ✓
Duration	Semi-annual ✓
Modules per week	Theoretical: 2
Class hours	Classes: 64
Prerequisites	None

B. Contribution to the Graduate's Profile

The course Resilience for Sustainable Business Development is intended to provide a comprehensive overview of the principles and practices towards disaster resilience and sustainability in a current global context poised to become riskier and uncertain.

Students will explore the entire disaster risk management cycle, from hazard identification and risk assessment to preparedness, business continuity, response, and recovery; also covering emerging risks such as extreme weather events and cyber-attacks, acquiring the following generic and specific competencies.

C. Competencies and Learning Outcomes from the Course

Generic Competencies	General Learning Outcomes
Public Responsibility	• Professional and personal role in society.

	<ul style="list-style-type: none"> • Awareness of the impact of actions on society. • Commitment to the common good, social and environmental well-being. • Commitment to solving public problems.
Global Vision	<ul style="list-style-type: none"> • Interdisciplinary vision. • Strategic vision. • Recognition of the globalized world. • Recognize yourself as a global citizen.
Critical Thinking	<ul style="list-style-type: none"> • Analysis, evaluation, and integration of information. • Questioning and evidence-based substantiation. • Problem solving. • Reflection and research.

D. Units, Content and Learning Outcomes

Units and Content	Competency	Learning Outcomes
UNIT I: Introduction to Resilience & Disaster Management - Crisis, Disasters, and Emergencies, are they the same? - Evolution of crisis and emergency management. - Resilience. - The Disaster Risk Management Cycle.	<i>Critical Thinking</i> <i>Public Responsibility</i>	Learn the evolution of crisis and emergency management. Understand the concepts of disaster, resilience, emergency, and crisis. Comprehend the four phases of the disaster risk management (mitigation, preparedness, response, and recovery).
UNIT II: Risk - Understanding risk and its categories. - Disaster Risk, there are no natural disasters. - Types of hazards. - Identifying and assessing risk.	<i>Critical Thinking</i> <i>Global Vision</i>	Understand the risk concept and its categories. Comprehend the elements that build disaster risk. Identify and analyze various types of hazards (natural, technological, and human-caused).
UNIT III: Planning and Continuity - Introduction to Emergency and Crisis Planning. - Risk Governance. - Building a crisis and an emergency plan. - Business Continuity Planning. - Developing a training programme. - Field visit to SENAPRED.	<i>Critical Thinking</i> <i>Global Vision</i>	Comprehend the concept of whole community planning. Explain the process or steps to design crisis and emergency plans. Explain the process or steps to design a business continuity plan. Understand the importance of exercises and training. Comprehend the types of exercises and their uses. Explain the elements of a training programme. Understand the Chilean National System for Disaster Preparedness and Response.

Major Learning Aspects:

- Define risk and understand its components.
- Manage and assess risk.
- Develop crisis preparedness actions; business continuity planning and training.
- Comprehend the elements required for successful emergency management.
- Leadership and communication on risk and crisis management.
- Climate change and climate change adaptation.

E. Course Timetable — Second Semester 2026

Leading Professors: Prof. Cristóbal Mena A. (Universidad del Desarrollo) and Prof. Timo Savolainen (Laurea University of Applied Sciences)

Location: Hybrid **Total Classes:** 30 classes

Date	Content Units	Learning Objectives	Activities	Support Materials	Evaluation
Week 1 Aug 03	INTRODUCTION UNIT I: Introduction to Risk & Crisis Management - Risk, crisis, disasters, and emergencies: are they the same?	Understand the purpose of the course. Define key terms.	Read the course program, goals, and expectations. Lecture by Prof. Cristóbal Mena (UDD) and guided discussion.	Course program	Discussion and reflection.
Week 2 Aug 10	- Evolution of crisis and emergency management. - The Emergency Management Cycle.	Learn about the evolution of crisis and emergency management. Understand the four phases (mitigation, preparedness, response, and recovery).	Lecture by Prof. Cristóbal Mena (UDD) and guided discussion.	Haddow, Bullock & Coppola (2017). Introduction to Emergency Management, 6th Ed.	Discussion and reflection.
Week 3 Aug 17	- Global policies for sustainable and resilient development.	Learn about current global policies related to disaster risk reduction and sustainable development.	Lecture by Prof. Cristóbal Mena (UDD) and guided discussion.		Discussion and reflection.
Week 4 Aug 24	- Climate crisis and adaptation. - Disaster risk financing.		Lecture by Prof. Cristóbal Mena (UDD) and guided discussion.		Discussion and reflection.
Week 5 Aug 31	- Risk perception and communication.	Explain and discuss how we perceive risk and the role of behavioral science.	Lecture by Prof. Cristóbal Mena (UDD), guided discussion, and case study review.		Discussion and case study analysis.
Week 6 Sep 7	Field Visit — SENAPRED	Understand the Chilean System for Disaster Prevention and Response. Observe an	Field visit.		Unit I evaluation.

		Emergency Operations Centre (EOC).			
Week 7 Sep 14	SPRING BREAK — CHILE				
Week 8 Sep 21	★ KICK-OFF JOINT COURSE UNIT II: Risk - Understanding risk and its categories.	Present joint course objectives and assessments. Comprehend risk management fundamentals based on ISO 31000.	Joint lecture by Profs. Cristóbal Mena (UDD) and Timo Savolainen (Laurea).		Discussion and reflection.
Week 9 Sep 28	- Disaster Risk: there are no natural disasters. - Case Study - Types of hazards.	Understand the components of disaster risk. Learn about types of hazards. Discuss whole community planning.	Lecture by Prof. Cristóbal Mena (UDD) and guided discussion.	Wisner et al. (2004). What is vulnerability? At risk (2nd ed., pp. 11–20). Routledge.	Discussion and reflection.
Week 10 Oct 05	- Identifying and assessing risk - Business Impact Analysis (BIA)	Apply risk identification and assessment tools. Explain the process of developing a BIA.	Lecture by Prof. Timo Savolainen (Laurea) and practical exercise.		Discussion and practical exercise.
Week 11 Oct 12	★ Project Workshop I	Discuss project advances and provide support.	Joint workshop UDD–Laurea.		Project review. Unit II evaluation.
Week 12 Oct 19	MIDTERM I — First Project Delivery (Risk Report) UNIT III: Planning and Continuity - Intro to Crisis & Emergency Planning - Business Continuity Planning.		Lecture by Profs. Timo Savolainen (Laurea) and Cristóbal Mena (UDD), and guided discussion.		Discussion and reflection.
Week 13 Oct 26	- Principles and Best Practices for Crisis and Disaster Planning. - Building a plan.	Discuss the principles governing crisis and disaster planning. Explain the steps to design crisis and emergency plans.	Lecture by Prof. Cristóbal Mena (UDD) and guided discussion.		Discussion and reflection.
Week 14 Nov 02	- Plan Components I		Lecture by Prof. Cristóbal Mena (UDD) and guided discussion.		Unit III evaluation.
Week 15 Nov 09	★ Project Workshop II MIDTERM II — Second Project Delivery (Plan Components I) - Plan Components II	Discuss project advances and provide support.	Joint workshop UDD–Laurea.		Project review.

Week 16 Nov 16	★ Project Workshop III Course Closure		Joint workshop UDD–Laurea.		Discussion and reflection.
Week 17 Nov 23	FINAL EXAM Plan Presentation				

F. Evaluation

- Written assessments.
- Group works.
- Project delivery.
- Attendance: minimum 75% required to pass the course for UDD students.
- Students must achieve at least a 3.0 grade on the Exam to pass the course.

Date	Item	Description	Percentage
TBD	Midterm 1	Project Delivery I — Risk Report	25%
TBD	Midterm 2	Project Delivery II — Plan Components I	25%
During the semester	Partial evaluations	Short quizzes and field activity reports throughout the semester.	20%
TBD	Exam	Complete Project — Crisis Response Plan Presentation	30%

IMPORTANT: Students need to have at least 75% attendance at UDD AND achieve at least a 3.0 grade on the Exam to pass the course.

G. Teaching Methods

- Lectures.
- Case study analysis.
- Group works.
- Field visits.
- Field research.

H. Learning Resources

Reading Materials

Haddow, G.D., Bullock, J.A., Coppola, D.P. (2017). Introduction to Emergency Management, Sixth Edition. BH.

Kelman, I. (2020). Disaster by choice: How our actions turn natural hazards into catastrophes. Oxford University Press.

Wisner, B., Blaikie, P., Cannon, T., & Davis, I. (2004). What is vulnerability? In *At risk: natural hazards, people's vulnerability and disasters* (2nd ed., pp. 11–20). Abingdon: Routledge.

Weick, K. E., & Sutcliffe, K. M. (2015). *Managing the unexpected* (3rd ed.). John Wiley & Sons.

Audiovisual Materials

Spike Lee & Terence Blanchard (2006). *When the Levees Broke: A Requiem in Four Acts*.

Case study videos (provided during the course).

Field Activities

Field visits and field research, including a visit to the National Service for Disaster Prevention and Response (SENAPRED), Chile.