

OPTIMA Winter School

Optimal Decision-Making in Public Health

STP4IS Winter School | Erasmus+ Blended Intensive Programme (BIP)

Course information	Details
Scientific lead and project coordinator	Prof. Paolo Candio
Organiser	International Relations Division, University of Trento
Academic year	2026/2027
Dates	In person in Trento: Monday 18 - Friday 29 January 2027
Virtual component	Compulsory 2-hour preparatory online session: Tuesday 12 January 2027, 13:00 Italian time; online follow-up session to be confirmed
Venue	University of Trento, Trento, Italy
Teaching language	English
Credits	6 ECTS for eligible international participants, with an evaluation mark in thirtieths
Target audience	10-25 senior Bachelor's students who have completed the second year, and Master's students from UniTrento partner universities
Recommended backgrounds	Medicine, Allied Health Professions, Economics, Management, Data Science, Management Engineering, Bioengineering and related fields
English level	B2 or equivalent confidence in English-language academic work
Challenge provider	Local health authority ASUIT: data, cases and contextual information for applied group work

Course description

OPTIMA - Optimal Decision-Making in Public Health is a two-week interdisciplinary Winter School designed to support students in developing practical skills for decision-making in complex public health challenges. The programme combines academic training, applied laboratories, stakeholder engagement and challenge-based group work. Participants will work collaboratively on real public health problems proposed by local health authorities and will be asked to critically evaluate and redesign selected public health interventions.

The programme is distinctive because it anchors learning in real cases, data and contextual information provided by the local health authority, ASUIT. Through lectures, discussions, labs and mentoring, students will connect policy design, epidemiology, econometric analysis, economic evaluation and health equity to the practical task of improving public health decision-making.

Course objectives and learning outcomes

By the end of the Winter School, participants will be able to:

- explain the main stages of public health intervention design, evaluation and implementation;
- frame complex public health problems using epidemiological, economic, organisational and equity perspectives;
- critically assess available evidence, data quality and assumptions underpinning decisions;
- apply introductory concepts from causal inference, econometric analysis and economic evaluation to real-world public health challenges;
- identify health equity implications and distributional consequences of public health interventions;
- develop a feasible and evidence-informed redesign proposal for a selected public health intervention;
- work effectively in interdisciplinary and multicultural teams;
- communicate analytical reasoning, policy options and recommendations to academic and stakeholder audiences through written and oral outputs.

Entrance requirements

- Admission is open to a maximum of 25 international students from UniTrento partner universities, with a minimum of 10 participants required for the Winter School to take place.
- The programme is open to students from backgrounds related to Medicine, Allied Health Professions, Economics, Management, Data Science, Management Engineering, Bioengineering and related fields.
- Participants should be confident in English-language use, equivalent to B2 level.
- No formal prerequisite course is required; however, interest in public health, policy analysis, quantitative methods, health economics or applied decision-making is strongly recommended.

Contents

The Winter School is organised around academic modules and a central Challenge-based Learning activity. The first week introduces the conceptual and methodological foundations needed to understand and evaluate public health interventions. The second week focuses on applied teamwork, intervention redesign and the preparation of a policy-oriented proposal and final pitch.

Core academic modules

- **Policy design:** problem framing, policy objectives, intervention logic, implementation context and stakeholder needs.
- **Epidemiology:** population health problems, burden of disease, study designs, indicators and interpretation of public health evidence.
- **Econometric analysis and causal inference:** counterfactual reasoning, selection bias, confounding, quasi-experimental approaches and interpretation of applied findings.
- **Economic evaluation:** costs, outcomes, cost-effectiveness, modelling principles and resource allocation in public health.
- **Health equity:** social gradients, vulnerable groups, distributional effects, inequality assessment and equity-sensitive recommendations.

Challenge-based group activity

The driving force of the Winter School is a collaborative Challenge in which participants work in teams on real public health problems proposed by local health authorities. The Challenge will require participants to:

- understand the public health problem and the intervention context;
- identify the decision problem, target population, relevant outcomes and key constraints;
- analyse available data and evidence, recognising uncertainty and limitations;
- assess expected impacts, equity implications and implementation feasibility;
- redesign or refine an intervention to support more effective and equitable public health decision-making;
- prepare a concise policy/evaluation brief and present recommendations in a final pitch.

Teaching and learning methods and activities

Teaching format: The programme combines lectures, seminars, applied laboratories, guided discussions, mentoring sessions, stakeholder engagement and social-cultural activities. All academic activities are delivered in English. The in-person component takes place at the University of Trento and is complemented by compulsory online activities as required by the Erasmus+ BIP format.

Challenge-based Learning: Students will work in interdisciplinary teams to address a real public health challenge. The methodology emphasises collaboration, critical thinking, creativity, communication and the translation of evidence into actionable recommendations.

Group work and mentoring: Teams will be supported by faculty, tutors and stakeholder representatives through regular mentoring sessions. Group work will develop practical experience in public health policy design, intervention evaluation and proposal writing.

Stakeholder and local engagement: ASUIT will contribute as Challenge provider by offering data, cases and contextual information. Visits to local cultural institutions and events may be included as part of the wider learning experience.

Workload, credits and attendance

- The programme includes approximately 60 hours of teaching, group work, applied activities, mentoring, visits and social-cultural programme activities.
- Participation in all scheduled activities is mandatory. Attendance will be tracked daily.
- All participants who satisfactorily complete the in-person component will receive a certificate of attendance.
- Eligible international participants who complete the compulsory online component and all assessment requirements will receive an official UniTrento transcript certifying 6 ECTS and an evaluation mark in thirtieths.

Assessment methods and criteria

Assessment is based on active participation, group outputs and the final presentation. The final mark will reflect both the quality of the analytical work and the ability to communicate feasible, evidence-informed and equity-sensitive recommendations.

Component	Weight	Assessment focus
Participation and engagement	20%	Attendance, contribution to discussions, preparation, teamwork and constructive engagement with faculty, peers and stakeholders.
Group Challenge work	40%	Problem framing, use of evidence and data, methodological reasoning, consideration of uncertainty, feasibility and health equity.
Final pitch	40%	Clarity of presentation, quality of recommendations, policy relevance, response to questions and ability to communicate to a mixed audience.

Expected outputs

- A group policy/evaluation brief summarising the decision problem, evidence base, proposed intervention redesign, expected impacts and implementation considerations.
- A final pitch delivered to faculty, peers and invited stakeholders.
- A concise reflection on the strengths, limitations and equity implications of the proposed recommendations.

Faculty and guest speakers

Lectures and mentoring will be delivered by international and local experts affiliated with, or invited from, the following institutions:

- London School of Economics
- University of Barcelona
- European Observatory on Health Systems and Policies
- University of Trento
- ASUIT and local public health stakeholders

Bibliography and study materials

Indicative study materials include:

- Asaria M, Griffin S, Cookson R. Distributional cost-effectiveness analysis: a tutorial. *Med Decis Making*. 2016;36(1):8-19. doi:10.1177/0272989X15583266.
- Briggs A, Claxton K, Sculpher M. *Decision modelling for health economic evaluation*. Oxford: Oxford University Press; 2006.
- Cookson R, Griffin S, Norheim OF, Culyer AJ, editors. *Distributional cost-effectiveness analysis: quantifying health equity impacts and trade-offs*. Oxford: Oxford University Press; 2020.

- Drummond MF, Sculpher MJ, Claxton K, Stoddart GL, Torrance GW. *Methods for the economic evaluation of health care programmes*. 4th ed. Oxford: Oxford University Press; 2015.
- Husereau D, Drummond M, Augustovski F, de Bekker-Grob E, Briggs AH, Carswell C, et al. Consolidated Health Economic Evaluation Reporting Standards 2022 (CHEERS 2022) statement: updated reporting guidance for health economic evaluations. *Value Health*. 2022;25(1):3-9. doi:10.1016/j.jval.2021.11.1351.
- National Institute for Health and Care Excellence. *Developing NICE guidelines: the manual* [Internet]. London: NICE; 2014 [updated 2025 Oct 23; cited 2026 Jul 17]. Process and methods [PMG20]. Available from: <https://www.nice.org.uk/process/pmg20>
- Papanicolas I, Rajan D, Karanikolos M, Soucat A, Figueras J, editors. *Health system performance assessment: a framework for policy analysis*. Geneva: World Health Organization; 2022. Health Policy Series, No. 57.
- Skivington K, Matthews L, Simpson SA, Craig P, Baird J, Blazeby JM, et al. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. *BMJ*. 2021;374:n2061. doi:10.1136/bmj.n2061.

Additional readings, datasets, case materials and slides will be provided before and during the Winter School through the learning platform.

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Challenge provider website: [ASUIT](#)