



## Advanced methods for road safety analyses

*eng. Filomena Mauriello*

**Credits:** 3 CFU

**Number of hours:** 18 frontal hours

**Date:** 2026: 3 febbraio, 10 febbraio, 17 febbraio, 24 febbraio, 3 marzo, 10 marzo.

**Objectives:** The objective of the course is to transfer to participants the knowledge of the most advanced methodologies for road safety analyzes based on quantitative methodologies to implement the road safety management process pursuant to Directive 2008/96/EC.

**Course programme:** Road accidents: definition of road accident, classification of accidents (characteristics of the accident, road and environment, traffic unit, people involved), cost of accidents, statistics.

Safety performance functions: definition of accident predictive models, accident distribution functions, Highway Safety Manual performance functions, estimation models for road safety performance functions.

Identification of contributory factors of accidents: analysis of accident data (premise, factor matrix, collision diagram, condition diagram), analysis of dominant characteristics of accidents (segments, intersections), statistics inferential, parametric estimation models, non-parametric estimation models, clustering.

### Teaching materials:

Slides of the lessons.

AASHTO (2010). Highway Safety Manual, First Edition.

Austroroads (2015). Guide to Road Safety Part 8: Treatment of Crash Locations. Austroroads Report AGRS08-15, Sydney, Australia.

World Road Association (2015). Road Safety Manual.

**Assessment methods:** Final interview

### Contact for information:

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**Lectures Program**

| N | Date     | Schedule      | Duration | Topic / Teacher |
|---|----------|---------------|----------|-----------------|
| 1 | 03/02/26 | 10.30 - 13.30 | 3 hours  |                 |
| 2 | 10/02/26 | 10.30 - 13.30 | 3 hours  |                 |
| 3 | 17/02/26 | 10.30 - 13.30 | 3 hours  |                 |
| 4 | 24/02/26 | 10.30 - 13.30 | 3 hours  |                 |
| 5 | 03/03/26 | 10.30 - 13.30 | 3 hours  |                 |
| 6 | 10/03/26 | 10.30 - 13.30 | 3 hours  |                 |