

# Human factor in road safety: from principle to practice

## Professor

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## Institution

University of Florence

## General Information

The course will provide advanced knowledge on the management of Human Factors (HF) issues in road safety focusing on the relationship between human drivers and the road. The cognitive processes characteristics and their translation in human behavior will be discussed and analyzed, together with the analysis on how those concepts have been included in design standards. The practical application of these principles will be explained considering their inclusion in Road Safety Audits (RSAs) and Road Safety Inspections (RSIs) procedures. Moreover, the use of HF in pedestrian safety analysis and design will be proposed. This last topic will be explored both concerning virtual reality and in-field experiment. Some comparison between the two approaches will be discussed.

Finally, the Lasis dynamic driving simulator will be presented, and it will be shown how to use it in virtual testing of driving behavior and safe road design. The course will be only in presence due to the need concerning the fourth lecture.

## Materials

All materials needed will be provided by the teachers.

## Schedule

Dates	Description
09.09.2024, 10:00-13:00	Human Factor in road safety: an introduction (AP)
16.09.2024, 10:00-13:00	Human Factor principles: application in scientific literature and design standards (AP)
23.09.2024, 10:00-13:00	Human Factor in road safety audits and road safety inspections (AP)
30.09.2024, 10:00-13:00	LaSIS Driving simulator overview (AP+MM)
07.10.2024, 10:00-13:00	Human Factor in pedestrian safety: a case study in virtual reality (MM)
14.10.2024, 10:00-13:00	Human Factor in pedestrian safety: a case study in real word (MM)
<b>Total 18 Hours – 3 Credits</b>	

## **Other information**

The activities will also include a visit to the LaSIS driving simulator with an illustration of the tool and its use both in scientific research field and road design field.

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