

Special training paths

Starting from the Master's programme in Transportation And Mobility Engineering, it is possible to obtain the diploma of *Smart Infrastructure Developer*. For this, activities for an additional 10 ETCS are required.

Two *Smart Infrastructures Developer Study Programs* are currently available (SID_A and SID_B), they ensure compliance with the general rules of the special training path established by the University of Naples Federico II and include 10 ETCS activities additional to the master's regular path.

Smart Infrastructure Developer –SID_A

Course	ETCS	Scientific Field Code	Pre-requirements
First Year, first-term			
Language Skills	3		None
Positioning and location-based services	9	ICAR/06	None
Statistical lab for industrial data analysis	9	SECS-S/02	None
Systems and Control fundamentals (+) (*)	9	ING-INF/07	None
First Year, second-term			
Machine Learning and big data (+) (**)	9	ING-INF/05	None
Intelligent Transportation Systems	9	ICAR/05	None
Road Safety	9	ICAR/04	None
Resilience of Geotechnical Systems	6	ICAR/07	None
Second Year, first-term			
Transport Planning and Appraisal	9	ICAR/05	Basic background on transportation modeling (ICAR/05)
Energy management for transportation	9	ING-IND/32	None
Digital maps and geological 3D Models	9	GEO/05	
Second Year, second-term			
Infrastructure-Building Information Modeling (I-BIM)	9	ICAR/04	
Lab / Internship	7		None
Smart Infrastructures Lab (***) (+)	2		None
MSC Thesis	12		None
Additional activities for the Smart Infrastructure Developer diploma			
Course	ETCS	Scientific Filed Code	Pre-requirements
First or second Year, second-term			
Smart Roads and cooperative driving (◇) (*)	6	ICAR/05	None
Workshops, labs and seminars (◇), (***) (+)	4		None

(+) Ensure at least 20 ETCS are in non-characterising activities

(◇) sum up to 10 extra ETCS (additional activities with respect to a regular length of the MSc)

(*) Ensure that the activities from tables A+B of the minor program are in the range [12, 21] ETCS

(**) Ensure that the activities from table C of the minor program are in the range [6, 12] ETCS

(***) Ensure that the activities from table D of the minor program are in the range [3, 9] ETCS

Smart Infrastructure Developer –SID_B

Course	ETCS	Scientific Field Code	Pre-requirements
First Year, first-term			
Language Skills	3		None
Positioning and location-based services	9	ICAR/06	None
Digital maps and geological 3D Models)	9	SECS-S/02	None
Systems and Control fundamentals (+) (*)	9	ING-INF/07	None
First Year, second-term			
Machine Learning and big data (+) (**)	9	ING-INF/05	None
Intelligent Transportation Systems	9	ICAR/05	None
Road Safety	9	ICAR/04	None
Resilience of Transportation Systems	6	ICAR/05	None
Second Year, first-term			
Traffic Control	9	ICAR/05	Basic background on transportation modeling (ICAR/05)
Energy management for transportation	9	ING-IND/32	None
Second Year, second-term			
Freight and logistics	9	ICAR/05	Basic background on transportation modeling (ICAR/05)
Railway and transit services	9	ICAR/05	Basic background on transportation modeling (ICAR/05)
Lab / Internship	7		None
Smart Infrastructures Lab (***) (+)	2		None
MSC Thesis	12		None
Additional activities for the Smart Infrastructure Developer diploma			
Course	ETCS	Scientific Filed Code	Pre-requirements
First or second Year, second-term			
Smart Roads and Cooperative Systems (◇)	6	ICAR/05	None
Workshops, labs and seminars (◇) (***) (+)	4		None

(+) Ensure at least 20 ETCS are in non-characterising activities

(◇) sum up to 10 extra ETCS (additional activities with respect to a regular length of the MSc)

(*) Ensure that the activities from tables A+B of the minor program are in the range [12, 21] ETCS

(**) Ensure that the activities from table C of the minor program are in the range [6, 12] ETCS

(***) Ensure that the activities from table D of the minor program are in the range [3, 9] ETCS