SHORT COURSE: INTELLIGENT TRANSPORT SYSTEMS

DEPARTMENT OF CIVIL ENGINEERING • 11-15 August 2025

COURSE COORDINATOR
Prof Johann Andersen

CO-PRESENTERS
Pierre Pretorius
Dr Megan Bruwer

COURSE FEE: R 12 000.00

ECSA CPD POINTS: 5
Please note: Only DIGITAL certificates will be issued

LANGUAGE
The course will be presented in English.

PROGRAMME
Detailed programme will be forwarded to all registered candidates.

CONTACT
Le-Ann Williams
021 808 4131
civilcourses@sun.ac.za

COURSE OBJECTIVES
To provide students with a working knowledge of ITS in general (including technology and communication options). Sustainable ITS implementation will be approached from a Systems Engineering perspective, with more detailed knowledge obtained in certain application areas (including freeway management systems and public transport applications). Several design tutorials and operational scenario development will supplement the practical learning experience of attendees.

INTENDED AUDIENCE
Officials of implementing authorities, traffic and toll operational managers and personnel, consultants, service providers and Transportation Engineering Post-graduate students.

COURSE OUTCOMES
Enabling attendees to design and operate Intelligent Transport Systems

WE LOOK FORWARD TO WELCOMING YOU TO THE COURSE!

COURSE ARRANGEMENTS
This course will be presented **IN-PERSON** at Stellenbosch University. Venue details will be forwarded to registered delegates once payment has been received.

CLICK HERE TO REGISTER

REGISTRATIONS
Registrations close: 04 August 2025

All payments due by: 08 August 2025

Payment confirms registration. Please read the T's & C's before registering

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COURSE CONTENT AND PRESENTERS

COURSE CONTENT

ITS Fundamentals

This includes basic ITS elements, architecture, standards, life cycle approach, procurement, policy, benefits & evaluation.

Systems Engineering (SE) for ITS

This covers the SE process, systems engineering management plan, concept of operations, defining system and subsystem requirements, configuration management, project design, implementation, integration and verification, validation, operations, change management, retirement and replacement.

Technology and Communications

Overview of various ITS technology and communication systems utilised in ITS deployment

Freeway Management Systems (FMS), Public Transport Systems and Arterial Management Systems

Overview will be provided on components that FMS is comprised of, and will include topics such as operational centres, incident management systems and "toolbox" for deployment.

Rural Applications

Rural applications are catergorised and appropriate tools provided.

Connected and Autonomous Vehicles, Smart City, Mobility as a Service and other technology applications

Overview of various developments in the field of transport technology and how that will impact on our environment in the future.

Data Applications

Overview provided of data digitalisation and the use of data in transport. Worked examples provided in floating car data applications.

Practical Discussions

Big Data Analysis, ITS Concept of Operations development, ITS FMS design and ITS operational scenario development. Variable Speed Limit Implementation; Vehicle to Infrastructure Implementation.

ABOUT THE PRESENTERS

PIERRE PRETORIUS

Pierre. is a retired Principal at Kimley-Horn and Associates, Inc., USA. He has more than 40 years of ITS, traffic management, and transportation planning and operations experience. He also served as Vice-Chair of the AASHTO/FHWA 511 Technical Working Group; President of ITS Arizona; Chair of the ITS America Information Forum; on the FHWA ITS Deployment Technical Advisory Committee (DTAG) and ITS America Coordinating Council. Pierre was recently part of a team that developed the course work for nine 5-day Regional Operations Forums attended by over 300 individuals from more than 30 states in the U.S. He also served as Forum leader and instructor.

JOHANN ANDERSEN

Johann (course coordinator) is an Adjunct Professor: Intelligent Transport Systems at Stellenbosch University and instrumental in the establishment of the Stellenbosch Smart Mobility Laboratory. He is also the Chief Executive Officer of Techso, a consultant company providing services in Transportation Engineering and Intelligent Transport Systems. He has more than 35 years of industry experience, and specialises in ITS (planning, design, operations, implementation), traffic engineering and transportation planning. He was the first president of ITS South Africa, and served on its Board for a number of years. He acts as supervisor for a number of post graduate students, and endeavours to align education and training in ITS with industry needs.

MEGAN BRUWER

Megan is a transportation engineer, senior lecturer and researcher at the Department of Civil Engineering at Stellenbosch University. She joined Stellenbosch University in 2015 after working as a consulting civil engineer in the spheres of structural and transportation engineering. Her research interests are focused on improvements to transport systems in low- and middle-income countries, including sustainable transport opportunities, infrastructure development, and the application of new data sources to improve transport planning and traffic management. She has published several journal articles, book chapters and conference papers. She also supervises the research of M and PhD students in transportation engineering.