MARA NORD PROJECT 2010-2011

MARA Nord GPR Training Schedule
21-22.03.2011
Rovaniemi
Jokiväylä 11B Borealis audiotorium

Gränslösa möjligheter
EUROPEISKA UNIONEN
Europeiska regionala utvecklingsfonden
INTERREG IV|A|NORD

Nordkalottrådet
Pohjoiskalotin neuvosto
The North Calotte Council

OULUN SEUDUN AMMATTIKORKEAKOULU

Rovaniemen ammattikorkeakoulu
University of Applied Sciences

Statens vegvesen

TRAFIKVERKET

Liikennevirasto
Finnish Transport Agency

Centre for Economic Development, Transport and the Environment

Day 1

Welcome Coffee served at 09:30- 10:00

Lesson 1:	10.00 – 11.00	Opening, introduction, history of GPR , general applications
Lesson 2:	11.00 – 11.30	Electromagnetic theory, principles of wave propagation
Lesson 3:	11.30 – 12.15	Electrical properties of soils and road materials and how they describe their material properties

Lunch break 12.15 – 13.00

Lesson 4:	13.00 – 13.30	GPR hardware components, 2D GPR, 3D GPR, control units, different antenna types and meaning of different antenna frequencies on road surveys. Radio frequency legislation and licensing of GPR units.
Lesson 5:	13.30 – 14.00	Installation of GPR system to survey vehicles, traffic safety issues during data collection
Lesson 6:	14.00 – 14.30	Other instrumentation needed in GPR data collection process, positioning, videos, other documentation

Coffee Break 14:30 – 15:00

Lesson 7:	15.00 – 16.15	Practical examples of GPR in surveys for pavement design and for rehabilitation design
Lesson 8:	16.15 – 16.45	Practical examples of GPR in network level surveys for PMS systems
Lesson 9:	16.45 – 17.15	Practical examples of GPR in site investigations

Closing day 1 17:15- 17:30

Day 2

Lesson 10: 08.15 – 09.00 GPR Signal digitization, what bits and samples/scan mean? Presenting different GPR processing and interpretation software packages

Lesson 11: 09.00 – 09.30 GPR data collection, issues that consultant and client need to know

Coffee Break 09.30 – 10:00

Lesson 12: 10.00 – 10.30 GPR data processing, necessary preprocessing techniques , processing techniques, basic filtering

Lesson 13: 10.30 – 11.00 GPR data interpretation basics, layer picking methods, basic rules for good quality interpretation, 2D and 3D interpretation, what are the common mistakes

Lesson 14: 11.00 – 11.30 Using reference data and other supporting data in GPR interpretation; drill cores, videos, FWD data

Lunch Break 11:30 – 12:15

Lesson 15: 12.15 – 13.00 Practical examples of the use of GPR in quality control / quality assurance surveys for asphalt projects and for construction control

Lesson 16: 13.00 – 13.45 Practical examples of the use of GPR in forensic surveys

Coffee Break 13:45 – 14.15

Lesson 17: 14:15 – 14.45 Practical examples of the use of GPR in bridges surveys

Lesson 18: 14.45 – 15.30 Introduction to demonstration DVD, how to install Road Doctor viewer, how to view demonstration projects

Discussion and Closing day 2 15:30 – 16:00