

Implementation plan Finished

Study unit	Developing ICT Systems (A0107), 10.0
Implementation	NIA1321: 2/2013-2014 (07.01.2014 - 20.06.2014)
Type	INITIATION OF PROFESSIONAL GROWTH (A029)
Groups	Primary: NIA13SN Others :
Involved in the project	
Lecturers	
Number of participants	Minimum: Maximum:
Enrolment period	02.12.2013 08:00 - 08.12.2013
Main timing for implementation	
Applicability	For exchange students: Yes For elective studies: No Open UAS student: No Suitable for virtual UAS: No
Teachers	De Arruda Camara Antonius (Teacher in charge), Rathod Paresh (Other teacher)
Campus	Laurea Leppävaara
Main location for implementation	
Implementation method	Optima realization/student group, Other method of implementation, Project/venture/R&D, Web/virtual Language: English Virtuality: 4 cr Integration of R&D: 0 cr
Implementation class	
Focus areas	
Evaluation at the latest	17.07.2014 Storing of graded material ends.: 17.06.2015
Exam days	
Having completed the study unit the student is able to	• analyze and explain the behaviour of simple programs involving the fundamental programming constructs covered by this unit • design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and the definition of functions • choose appropriate conditional and iteration constructs for a given programming task • implement object-oriented programming in working life projects. • analyze to differentiate and use key terms such as: information, data, database, database management system, metadata, and data mining • explain the role of data, information, and databases in organizations • describe and interpret Entity Relationship and Object Modeling • formulate and test SQL queries • design, develop and manage the database system • describe the structure of the World Wide Web as interconnected hypertext documents
Previous studies	Designing ICT Systems
Previous studies, more information	A0105 - Designing ICT Systems
Learning objectives	
Contents	Section-1: Fundamentals of programming (5 CR) • information technology: purpose, use, value • programming basics including variables, operators, expressions, statements and modifier • control/Block structures • class and methods • Object-oriented programming - overloading, encapsulation, constructors, inheritance, exception and IO Section-2: Relational Database Design and Development (5 CR)

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	• introduction to Database Systems • Design of relational databases using UML class diagrams • relational database model • Basics of SQL • create and manage databases with a DBMS
Study material	Virtual Learning Environment will be provided
Tutoring and communication	Teachers will guide students during workshop based contact sessions. During the workshops teachers will introduce key concepts and support students in completing exercises from the virtual learning environment.
Evaluation criteria and methods	For both sections: Individual evaluation based on tests assigned on class. There are two options for taking tests: Option A) For each section (programming and DB): completing three small tests during the semester Or Option B) For each section (programming and DB): completing a large test at the end of the semester FINAL GRADE: 50% from the programming section and 50% from the DB part Students planning to take Option B should inform the teachers via email until Tuesday, 04.02.2014
Project (name)	
R&D methods	
Other arrangements	Complete details will be given during Induction class.

Learning events

Date	o'clock/at h	Subject	Content	Status	Teachers
27.01.2014	09:00-16:00	Workshop - Orientation	Morning session: Orientation & Introduction to programming (Paresh Rathod) 12:30 - 15:30 Afternoon session: DB (Antonius Camara) • Database key concepts, Introduction to the relational model • Distribution of user accounts for the Viope learning platform • Self-Study: Chapters 1,2, and 4 of Viope course "A0107 - Relational Databases and SQL"	Computer room	Antonius De Arruda Camara, Paresh Rathod
03.02.2014	09:00-16:00	Workshop	Morning session: Introduction to java programming (Paresh Rathod) • Exercise: Hands on practice & Self-study Viope chapters 1, 2,3 , 4 12:30 - 15:30 Afternoon session: DB (Antonius Camara) • Relational model/schema • Relational model of database used in Viope programming exercises • SQL SELECT queries • Exercises from Viope DB course chapter 7 (Simple Select queries) • Self-study: Viope DB course chapter 8 (Sorting results)	Computer room	
10.02.2014	09:00-16:00	Workshop	Morning session: Java Programming (Paresh Rathod) • Exercise: Hands on practice & Self-study Viope chapters 4 Afternoon session: DB (Antonius Camara) • Clarifying doubts/questions about	Computer room	

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				- chapter 8 (sorting results) - Design of relational databases - Self-study: Viope DB chapter 11 (Aggregate functions)		
17.02.2014	09:00-16:00		Workshop	Morning session: Java Programming (Paresh Rathod) - Exercise: Hands on practice & Self-study Viope chapters 4 & 5 Afternoon session: DB (Antonius Camara) - Clarifying doubts/questions about chapter11 (aggregate functions) - Design of relational databases - Self-study: Viope DB chapter 12 (Aggregate functions and Group By)	Computer room	
24.02.2014	09:00-16:00		Workshop	Morning session: Java Programming (Paresh Rathod) - Exercise: Hands on practice & Self-study Viope chapters 5 Afternoon session: DB (Antonius Camara) - Review of "aggregate" and "group by" queries from Viope chapter 12 - Resolving different types of SQL queries - related to Viope chapters seen so far - Self-study: DB chapters 6 (INSERT and UPDATE), 13 (AS), 14 (JOINS)	Computer room	
03.03.2014	09:00-16:00		Workshop	Morning session: <u>Java Test - 01(Paresh Rathod)</u> - Test topic: Details on Optima Afternoon session: DB (Antonius Camara) - Design of relational databases	Computer room	
10.03.2014	12:30-16:00		Workshop	Morning session: Self-study (No meeting) - Exercise: Self-study Viope chapters 6 Afternoon session: DB (Antonius Camara) DB Test-1: Design of relational databases	Computer room	
17.03.2014			No Session	Morning session: Self-study (No meeting) Exercise: Self-study Viope chapters 6 Afternoon session: Self-study (NO CONTACT SESSION)		
24.03.2014	09:00-16:00		Workshop	Morning session: Java Programming(Paresh Rathod) - Exercise: Hands on practice & Self-study Viope chapters 6 Afternoon session: DB (Antonius Camara) - Resolving different types of SQL queries - related to Viope chapters seen so far	Computer room	

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31.03.2014	09:00-16:00	Workshop	Morning session: Java Programming(Paresh Rathod) - Workshop: - Conditions: <u>if, if-else and if-then-else</u> - Loops:<u>for, while and do-while</u> - Self-study Viope chapters 6 Afternoon session: DB (Antonius Camara) DB Test-2 (SQL queries related to following Viope chapters)6 (INSERT, UPDATE, DELETE) 7 (Simple SELECT queries) 8 (Sorting results) 11 (Aggregate functions) 12 (Aggregate functions and Group By) 13 (AS) 14 (Joins and multi-table queries)	Computer room	
07.04.2014	09:00-16:00	Workshop	LV International week (More details later on)	Computer room	
14.04.2014	09:00-16:00	Workshop	Morning session: Java Test - 02 (Paresh Rathod) Test topic: Viope Chapter 1 to 6 + Conditions + Loops (see workshop details in 31.03.2014) Afternoon session: NO CONTACT SESSION	Computer room	
28.04.2014	09:00-16:00	Workshop	Morning session: Java Programming(Paresh Rathod) - Workshop: Paper solution and Methods - Exercise: Hands on practice & Self-study Viope 7 (Array) Afternoon session: DB (Antonius Camara) - Reviewing remaining course agenda (remaining tests) - Introduction to MySQL/XAMPP - Running SQL scripts to create databases - Viope chapter 5 (Creating database and tables) - Reviewing results of DB test-2 (SQL queries)	Computer room	
05.05.2014	09:00-16:00	Workshop	Morning session: Java Programming(Paresh Rathod) Workshop:Arrays	Computer room	

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				Exercise: Hands on practice & Self-study Viope 6 & 7 Afternoon session: DB (Antonius Camara) - Given a relational model of a database, implement a SQL script to create the database, tables and insert data - Running the script in MySQL to create the database - Debugging SQL scripts using MySQL		
12.05.2014	09:00-16:00		Workshop	Morning session: Java Programming(Paresh Rathod) - Exercise: Hands on practice & Revision Afternoon session: DB (Antonius Camara) - NO CONTACT SESSION	Computer room	
19.05.2014	09:00-16:00			Morning session: Java Test - 03 (or) BIG TEST covering all topics(Paresh Rathod) Test-03 topics: Viope chapter 6 to 8 BIG TEST topic: Viope chapter 01 to 08(those students who didn't take all three tests) Afternoon session: DB (Antonius Camara) DB Test-3 (MySQL and SQL scripts) or DB BIG TEST	Computer room	
26.05.2014	09:00-16:00			Morning session (09:00-11:30, Neon-Lab room 011) : Final Retake covering all topics(Paresh Rathod) Topics: Viope chapter 01 to 08 topics (including Array chapters) Afternoon session (12:30 - 15:00, room 207/207A): Final retake DB (Antonius Camara)	Java: Neon-Lab (room 011) / DB: (207/207A)	