Course Programme

IFI7114	EXPERIMENTAL INPUT AND OUTPUT	
3 ECTS	**Approximate amount of contact lessons and independent work:** 20 contact hours, 48 independent work hours	**Study semester:** S2, 2013
*Objectives***:**	To introduce and explore alternative input and output technologies.	
Course description: *(incl. description of the content of independent work in accordance with the determined amount of independent work)*	An overview of concepts, visions and arguments for extending conventional interaction techniques is given, with examples of applications, mainly covering topics related to tangible computing and augmented reality. Implementation techniques are introduced hands-on and a design and implementation assignment is accomplished using a selection of technologies such as physical widgets, matrix barcodes and radio-frequency identification systems.	
*Learning outcomes***:**	Students are expected to: (a) acquire conceptual and technical knowledge enabling the design and implementation of interactive media projects involving alternative input and output technologies; and to (b) develop an understanding of the limitations of mainstream input an output technologies.	
*Form of evaluation***:**	Exam. Quotation is distributed as follows: 70% – group project 30% – cross referenced review of a selected book or 3 articles.	
Lecturer(s):	Zahhar Kirillov, MSc & Kätlin Kalde, MSc	
Language of instruction:	English	
Title in Estonian:	*Eksperimentaalsed sisend- ja väljund seadmed*	
*Prerequisite subject(s)***:**	None specific but each project groups should account for at least one student with programming skills.	
Compulsory literature:	Dourish, Paul (2004). Where the action is: the foundations of embodied interaction. The MIT Press. O'Neill, Shaleph (2009). Interactive Media: The Semiotics of Embodied Interaction. Springer Verlag. O'Sullivan, Dan & Igoe, Tom (2004). Physical Computing: Sensing and Controlling the Physical World with Computers, Thomson.	

Replacement literature:	Genco, A. & Sorce, S (2010). Pervasive Systems and Ubiquitous Computing, WIT Press. Moggridge, Bill (2007). Designing Interactions, MIT Press. Krumm, John (2009). Ubiquitous computing fundamentals, CRC Press.
Requirements for participating in studies and admission to exams/assessments:	Students are required to participate in 16 out of the 20 foreseen contact hours. Students are required to actively participate in a group project by contributing to its design, implementation and presentation and final report, in order to be assessed.
Requirements for independent study:	Students are required to read the compulsory literature and to write a cross-referenced review of 3 articles or a book, which will be assessed over its depth and rational.
Exam evaluation criteria or minimum level necessary to pass assessment:	**Group project grading criteria** (on the acquisition of acquisition of conceptual and technical knowledge enabling the design and development of interactive media projects involving alternative input and output technologies): A - excellent: fully designed and implemented project together with a comprehensive report and sound presentation. B - very good: fully designed and implemented project with a generic report and presentation. C - good: fully designed but partially implemented project with a generic report and presentation. D - satisfactory: partially designed and implemented project with a generic report and presentation. E - sufficient: partially designed and implemented project with insipient report and presentation. F - fail: more work is required before the credit can be awarded. **Cross-referenced review** (on the development of an understanding of the limitations of mainstream input an output technologies): A - excellent: the book is soundly situated in its context and the depth and soundness of its rational reflects a comprehensive understanding of all relevant issues. B - very good: above average: the book is soundly situated in its context but the depth and soundness of its rational reflects a moderate understanding of all relevant issues. C - good: the book is situated in its context and the depth and soundness of its rational reflects a moderate of all relevant issues. D - satisfactory: the book is situated in its context but the depth and soundness of its rational reflects a superficial understanding of relevant issues. E - sufficient: the book is loosely situated in its context and the depth and soundness of its rational reflects a superficial understanding of relevant issues. F- less than 50% of the work is done - fail: more work is required before the credit can be awarded.

	January 25, 2013 4pm – 8pm	*Concepts, visions and arguments for extending conventional interaction techniques. Examples of applications related to tangible computing. ntroductions to physical widgets, matrix barcodes and radio-frequency identification systems. Examples of applications related to ambient intelligence. Making teams and brain-storming ideas for development on Phidgets platform.*
	February 8, 2013 4pm – 8pm	*Initial experiments with physical widgets, matrix barcodes and radio-frequency identification systems. Each student selects a book or a set of 3 articles for cross-referenced review.*
	February 22, 2013 4pm – 8pm	*Project development*
	March 22, 2013 4pm – 8pm	*Project development*
	April 5, 2013 4pm – 8pm	*Project development. Project presentation and report delivery*
	(online)	*Cross-referenced review delivery*

Unit in charge of subject:	**Institute of Informatics**
Name of person compiling course programme:	***Zahhar Kirillov***
Signature:	
Date:	

Course programme registered in the academic unit

Date:	**17.01.2013**

Name of the academic coordinator:	*Merilin Tohver*
Signature:	