Subject code	Credits
-	30

Course title in Lithuanian

MAGISTRO DARBAS

Course title in English

MASTER THESIS

Short course annotation in Lithuanian (up to 500 characters)

Taikomosios informatikos magistro baigiamasis darbas – tai darbas, sprendžiant pasirinktą problemą iš informatikos metodų bei informacinių technologijų mokslinių bei taikomųjų tyrimų srities, dažniausiai pratęsiant Tiriamųjų darbų Nr. 1, 2 ir 3 metu atliktus tyrimus. Atliktas darbas apiforminamas pateikiant darbo aprašą, kuris apima problemos analizę, įvertina pasirinktos problemos ištyrimo laipsnį, remiantis literatūros šaltiniais, pagrindžia pasirinktos problemos tyrimo logiką bei metodus, detaliai išdėsto autoriaus pasiūlytus būdus nagrinėjamai problemai spręsti, aprašo praktinius/eksperimentinius/teorinius tyrimus, atsako į klausimą, ar nagrinėjamai problemai pasiūlytas sprendimas pasiteisino, išdėsto darbo išvadas

Short course annotation in English (up to 500 characters)

Master Thesis is a research work on a selected problem from scientific and applied research area of informatics methods and information technologies, usually extending and finalizing the research of the Research Projects No. 1, 2, and 3. Research activities and corresponding results are presented in the Master Thesis document, containing the following parts: 1) problem analysis; 2) literature survey; 3) proposed solutions of the problem; 4) results of the theoretical and experimental investigation, justifying the proposed solution 5) conclusions.

Prerequisites for entering the course

Compulsory subjects of „Applied informatics“ MSc programme

Course aim

Master Thesis should show student‘s ability to apply critical thinking skills in formulating, analysing and solving informatics-related problems using state-of-the-art informatics theories and methods as well as the ability to conduct individual research.

Content

No	Content (topics)
1.	Master Thesis in “Applied informatics” is a research work on a selected problem from scientific and applied research area of informatics methods and information technologies, usually extending and finalizing the research, accomplished in the Research Projects No. 1-3. Research activities and corresponding results are presented in the Master Thesis document, containing the following parts: • ***Problem analysis***. In this part, the problem is described in scientific and/or professional terms using scientific hypothesis or technical specifications. Theory is presented which puts the problem into the contect in which the problem is usually addressed by the scientific community. Different theoretical approaches to address the problem are compared and summarized. The survey of existing methods is presented in this part. The survey and the analysis of existing methods serve as the basis on which the approach taken by the author is formulated and justified. • ***Description of the solution***. This part contains the detailed description of the solution that the author is proposing to solve the problem. Solution is presented and described in a formal way using well-known formalisms of computer science: schemes, algorithms, formulas, data flow charts etc. The description of the solution must clearly distinguish between ideas, solutions and methods originally developed by the author and some other existing methods that have been adapted to solve the problem. • ***Description of the results of the theoretical and experimental research***. This part describes an investigation that aims at justifying the proposed solution. i.e. at proving/invalidating the proposed solution as an appropriate way to solve the problem. Experimental investigation has to be described in enough detail so that experiments could be replicated by others. Theoretical results have to be discussed in the context of their applicability in practice, for instance how often theoretical assumptions, on which the solution is based, are really found in practice. The results of experimental investigation have also be analysed from the point of view of their usability and efficiency in solving real-world tasks.

Distribution of workload for students (contact and independent work hours)

Consultations	**50 hors**
Individual students work	**740 hours**
Project presentation	**10 hours**
Total:	**800 hours**

Structure of cumulative score and value of its constituent parts

Contents of the master thesis - 70%, public defence of the master thesis- 30 %.

Recommended reference materials

No.	Publication year	Authors of publication and title	Publishing house	Number of copies in		
				University library	*Self-study rooms*	*Other libraries*
Basic materials						
1.	2001	W.D. Shoaff, How to Write a Master's Thesis in Computer Science	Florida Institute of Technology	unlimited, online resource http://cs.fit.edu/~wds/guides/howto/		
2.	1990	G. Gopen, J .Swan, The Science of Scientific Writing, American Scientist	The Scientific Research Society	unlimited, online resource http://www.americanscientist.org/issues/pub/the-science-of-scientific-writing		
3.	Present	K. Sainani. Writing in the Sciences. Coursera on-line course	Stanford, Coursera	unlimited, online resource https://www.coursera.org/course/sciwrite		
Supplementary materials						
1.	Depend on the topic of the research.					

Course programme designed by

Prof. Dr. Gailius Raškinis, Systems Analysis Department
Prof. Dr. Tomas Krilavičius, Applied Informatics Department