Health and Human Services Informatics Master's and Doctoral Programmes

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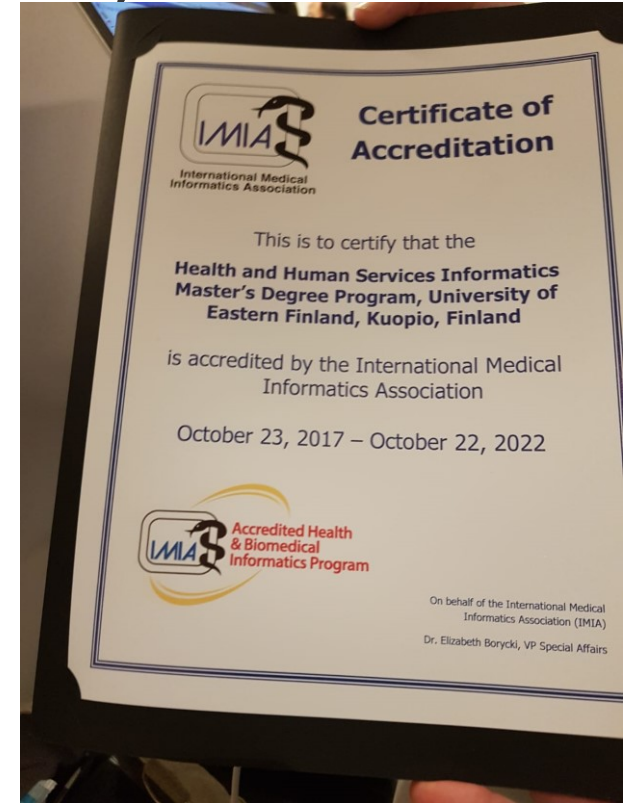**UEF** // University of Eastern Finland

Health and Human Services Informatics Master's programme

- Only Master's programme of its kind in Finland

- Established in 2000

- The aim is to produce professionals and researchers in information management for the needs of social and health care

- Based on IMIA Recommendations on Education in Health and Medical Informatics

- Information and communication technologies are widely used in teaching and this makes possible to offer also distance education

- First master's degree programme in the world to be **certified by the IMIA (2012 and 2018)**

- The audit (February 2012) compared the degree programme to the contents of IMIA's recommendations and also looked at student employment rates, the effectiveness of the education and its connections to society at large.

- The programme was especially praised on the innovation of combining the fields of human services and health care in informatics studies as well.

- The auditors were also surprised by the flexibility that Finnish higher education legislation affords students concerning study times and tuition fees. Both were deemed to have a positive effect on the education.

Re-accreditation by IMIA 2018 – president of IMIA Chris Lehmann and prof. Kaija Saranto

Health and human services informatics: a definition

Health and human services informatics is understood as the management of **information resources** of an entity, e.g. an organisation, covering the activities, actors and methods in the production of welfare services for the public and private sectors and organisations.

Resources are understood as data repositories, programs, devices, communications arrangements and people as sources and utilizers of information

International Medical Informatics Association
WG1 Health and Medical Informatics Education

Recommendations of the International Medical Informatics Association (IMIA) on Education in Health and Medical Informatics

Version from November 99
Endorsed by the IMIA-Board

*The recommendations are published in: Meth. Inform. Med. 39, 267-277.
It is intended to distribute the recommendations widely.*
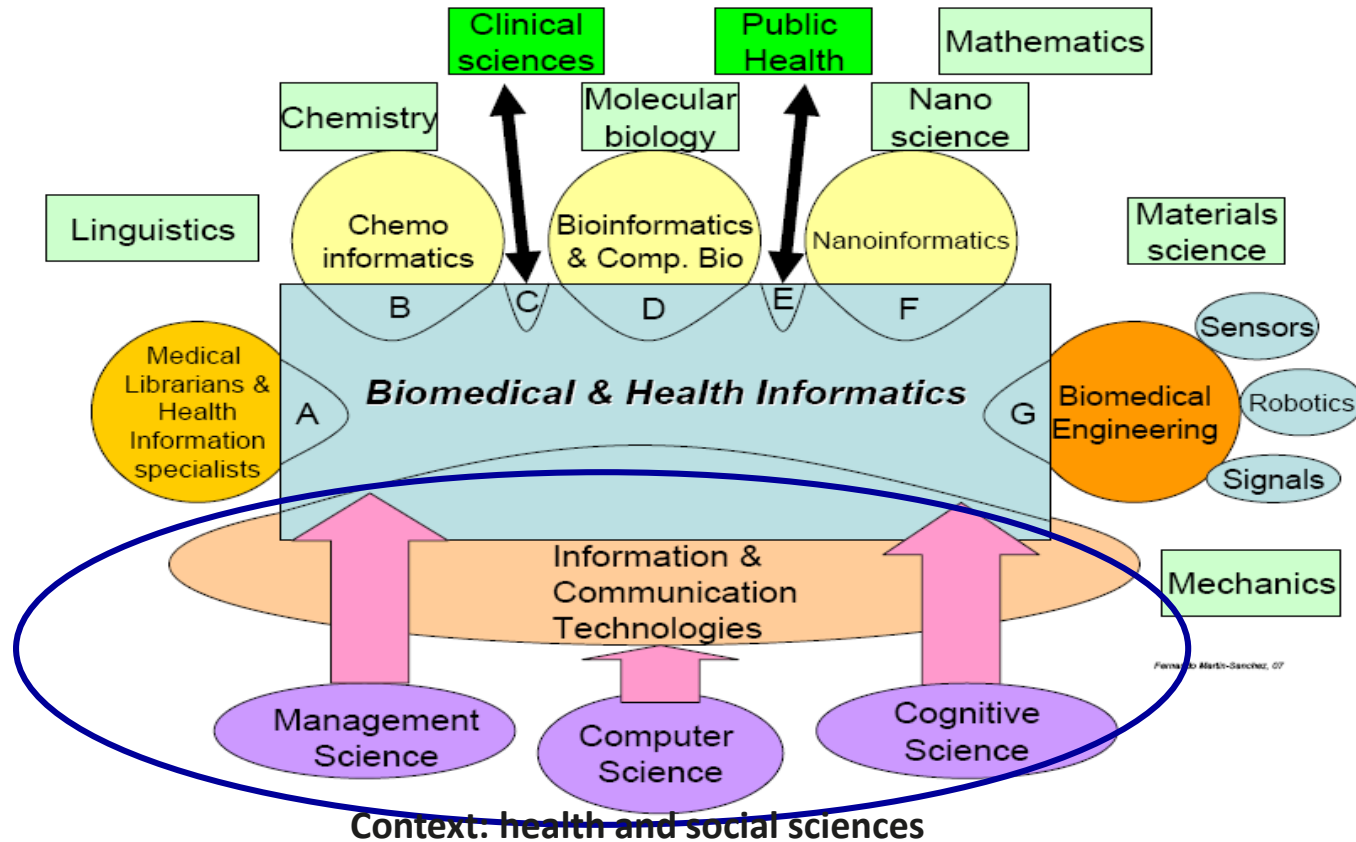
Version 1999

Updated version 2010

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IMIA master´s degree workload and HHSI workload comparison

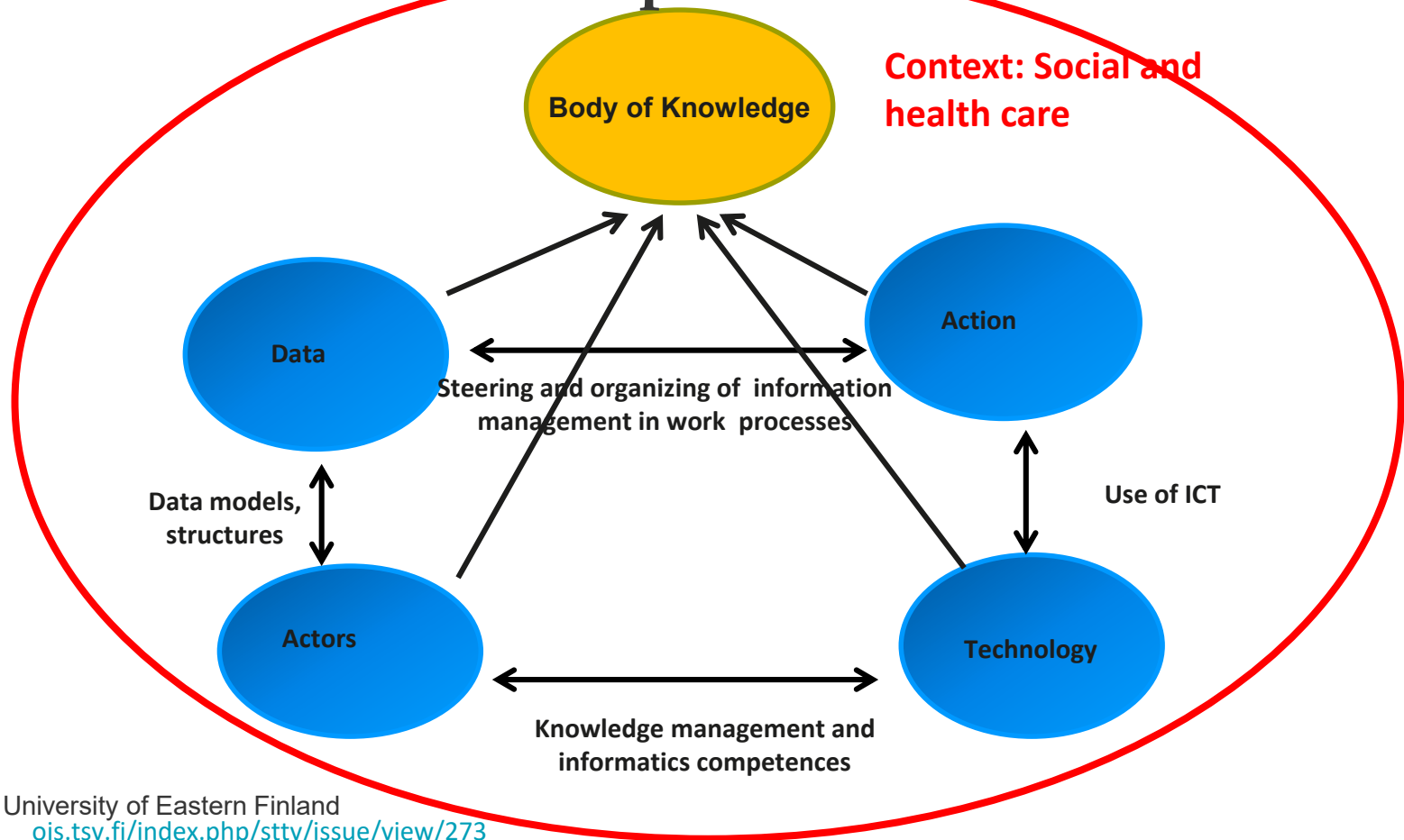| Knowledge/Skill Area	IMIA workload	HHSI workload
BMHI core knowledge and skills	80	70
Medicine, health and biosciences, health system organisation	20	30
Informatics/computer science	20	25 (comp.science)*
Methodological competencies	-	20

Health and Human Services Informatics..

- The graduates have positions in the field of health and human services such as
  - project managers
  - system developers
  - ICT managers
  - educators
  - researchers
  - ..
- both in public or private sector

Health Informatics and related fields

Saranto mod. Mantas 2011

The paradigm for health and human services informatics: main concepts and research interests

Body of Knowledge

Context: Social and health care

Data

Action

Steering and organizing of information management in work processes

Data models, structures

Use of ICT

Actors

Technology

Knowledge management and informatics competences

Research areas	Research focus	Theoretical background
Steering and organizing of information management in work processes	1.1 Business process analysis 1.2. Business process modelling 1.3 Information needs 1.4 Information flow	Information process model (Choo) Innovation theory (Rogers) System theory (Bertalanffy)
Use of ICT	2.1 Information system implementation 2.2 Evaluations 2.3 eBusiness and eServices 2.4 Usability 2.5 Data security and protection	Innovation theory Organisation theory (Hatch) Change theory (Lewin) Socio-technical approach (Avgerou) Nielsen's heuristics EUCS-model TAM-model (Davis)
Knowledge management and informatics competences	3.1 Education and training 3.2 Competency development 3.3 ICT literacy 3.4 Management and leadership	Stagger's levels of Informatics knowledge and skills IMIA recommendations TIGER Initiative Various tools for ICT literacy assessment Knowledge management (Nonaka)
Data models, structures	4.1 Data repositories 4.1.1 Data models 4.1.2 Structured documentation 4.2 Terminologies 4.3 Standards 4.4 Data sets	Data mining methods Information reference models Terminology models Sociology of knowledge Information process model

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Curriculum

YEAR 1	YEAR 2
Advanced course in statistical methods, 5 Cp	Knowledge Management in HHSI, 6 Cp
Cost accounting and budgeting in public organisations, 6 Cp	Leading and Managing Change, 6 Cp OR Social Innovations and Strategy, 6 Cp
Evidence Based Health and Social Care, 6 Cp	Structures Promoting Welfare, 5 Cp
Information retrieval skills in social and health care management, 1 Cp	
Data models and Analytics, 3 Cp	
Research Methods in HHSI, 5 Cp	
Basics of management in social and health care, 5 Cp	Effective Health and Social Services, 5 Cp
Health Care and Social Welfare Legislation, 3 Cp	Practical Training in HHSI, 6 Cp
Theory Building in Health and HHSI, 6 Cp	Evaluation of Health and Social Services, 5 Cp
Data Protection and Data Security, 5 Cp	Research and Development of HHSI, 6 Cp
Introduction to HHSI, 5 Cp	
Individual Study Plan, 1 Cp	

M Sc Thesis w. Research seminars 30 Cp — 2ND SEMESTER / 1ST SEMESTER

Computer Science, basic studies (minor studies), 25 ECTS - * Alternative, ** Compulsory

Course	ECTS
Discrete Structures*	5
Basic Models of Computation*	3
Data Structures and Algorithms II*	3
Programming II - User Interaction*	5
Distributed and Concurrent Systems*	5
Data Management Systems*	5
Programming III - Object Orientation*	5
Human Factors of Interactive Technology*	5
Data Structures and Algorithms I*	5
Computer Systems*	5
Introduction to Computing**	5
Programming I - Elementary Programming **	5
Software Engineering I**	5

Health and Human Services Informatics curriculum - eLearning utilized almost in every course (2017-2018)

1.AUTUMN

Individual Study Plan, 1 Cp

Basics of Health and Human Services Informatics 5 Cp

Data Protection and Data Security, 5 Cp

Theory Building in Health and Human Services Informatics, 6 Cp

Legislation in Health and Human Services, 3 Cp

Introduction to Health and Human Services Management, 6 Cp

1.SPRING

Research Methods in Health and Human Services Informatics, 6 Cp

Modelling, 3 Cp

Information Retrieval, 1 Cp

Evidence Based Social and Health Care, 6 Cp

Evaluation Research, 6 Cp

Advanced Course in Statistical Methods, 5 Cp

2.AUTUMN

Research and Development of Health and Human Services Informatics, 6 Cp

Practical Training in Health and Human Services Informatics, 6 Cp

M Sc Thesis, 15 Cp

One of following courses:
Leading and Managing Change, 6 Cp
Small Business Finance, 6 Cp
 Social Innovations and Strategy, 6 Cp

2.SPRING

Knowledge Management in Health and Human Services Informatics, 6 Cp

M Sc Thesis, 15 Cp

Contextual Changes and Organizational Reforms in Social and Health Services, 7 Cp

Cost Accounting and Budgeting in Public Organisations, 6 Cp