

FNWI Master Evening February 18, 2016

— Computer Science —

A Joint Degree offered by:



UNIVERSITY OF AMSTERDAM



Your hosts today:

- ▶ **Thilo Kielmann**

Associate prof. (UHD) Computer Science (VU),
program director

- ▶ **Alban Ponse**

Associate prof. (UHD) Computer Science (UvA),
UvA program coordinator

Our programme today:

- ▶ The new **Joint-Degree Master in Computer Science** in Amsterdam

Who is us ?



UNIVERSITY OF AMSTERDAM

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**Two top universities
for the price of one !!**



Disadvantage:

- ▶ Two teaching locations: Science Park and Zuidas

Advantages:

- ▶ A Joint Degree: One diploma issued by both universities
- ▶ Larger selection of courses
- ▶ More research opportunities for graduation projects
- ▶ More world-class researchers at your finger tips
- ▶ More resources
- ▶ More of everything . . .

Fact Sheet:

- ▶ 2 years
- ▶ 120 ECTS credits
- ▶ Taught in English
- ▶ Internationally visible
- ▶ International student population
- ▶ Leading to a top position in industry (in NL and abroad)
- ▶ Leading to a position in industrial research
- ▶ Leading to a career in academia

Curriculum Structure

Four pillars:

- ▶ Master Core (54 EC)
- ▶ Choice of 6 tracks (30 EC):
 - ▶ Big Data Engineering
 - ▶ Computer Systems Security
 - ▶ Foundations of Computing and Concurrency
 - ▶ Internet and Web Technology
 - ▶ Parallel Computing Systems
 - ▶ Software Engineering and Green IT
- ▶ Constrained Choice packages (6–18 EC)
- ▶ Free Choice courses (18–30 EC)

Master Core (54 EC)

- ▶ **Distributed Systems** (6 EC)
laying the foundation of today's IT systems where everything is connected with everything else
- ▶ **History of Digital Cultures** (6 EC)
placing CS into its societal and historical context
- ▶ **Literature Study and Seminar** (6 EC)
investigating existing solutions to a research question and presenting findings within one of the research groups
- ▶ **Graduation Project** (36 EC)
Independently executing a project, turning everything learned so-far into a master piece

Track: Big Data Engineering

Track theme:

- ▶ The technology for transforming data into insights

Track core:

- ▶ High-performance Computing and Big Data
- ▶ Web Data Processing Systems
- ▶ Large-Scale Data Engineering
- ▶ Information Visualization
- ▶ Data Mining Techniques

Track coordinator:

- ▶ Dr Adam Belloum (a.s.z.belloum@uva.nl)

Track: Computer Systems Security

Track theme:

- ▶ Security of computer systems, malware analysis and defense

Track core:

- ▶ Systems Security
- ▶ Binary and Malware Analysis
- ▶ Software Exploitation
- ▶ Cybercrime and Forensics
- ▶ Kernel Programming

Track coordinator:

- ▶ Prof.dr Herbert Bos (h.j.bos@vu.nl)

Track: Foundations of Computing and Concurrency

Track theme:

- ▶ Formal methods, especially in concurrent programming

Track core:

- ▶ Logical Verification
- ▶ Advanced Logic
- ▶ Distributed Algorithms
- ▶ Term Rewriting Systems
- ▶ Protocol Validation

Track coordinator:

- ▶ Dr Femke van Raamsdonk (f.van.raamsdonk@vu.nl)

Track: Internet and Web Technology

Track theme:

- ▶ Software technology for web, internet, and cloud computing

Track core:

- ▶ Internet Programming
- ▶ Service Oriented Design
- ▶ Distributed Algorithms
- ▶ Performance of Networked Systems
- ▶ Web Services and Cloud-based Systems

Track coordinator:

- ▶ Dr Spyros Voulgaris (spyros@cs.vu.nl)

Track: Parallel Computing Systems

Track theme:

- ▶ Parallel computing is everywhere: from mobile phones to supercomputers

Track core:

- ▶ Parallel System Architectures
- ▶ Programming Large-scale Parallel Systems
- ▶ Parallel Programming Practical
- ▶ Programming Multi-core and Many-core Systems
- ▶ Performance Engineering

Track coordinator:

- ▶ Dr Clemens Grellck (c.grellck@uva.nl)

Track: Software Engineering and Green IT

Track theme:

- ▶ Systematic and quantifiable approaches to the development, execution and maintenance of software

Track core:

- ▶ Service Oriented Design
- ▶ Software Asset Management
- ▶ Green Lab
- ▶ Software Architecture
- ▶ Software Testing

Track coordinator:

- ▶ Prof.dr Patricia Lago (p.lago@vu.nl)

Looking Beyond your Track

Ensuring the breadth of each individual study program

Constrained choice modules (6–18 EC):

- ▶ One course on foundations
- ▶ One course on software engineering
- ▶ One course on programming
- ▶ One course on mathematics

- ▶ Each to be chosen from a predefined set of choices
- ▶ Partially covered by the chosen track's core

Free Choice Courses

Free Choice (18–30 EC):

- ▶ Courses from other tracks
- ▶ Other courses from constrained choice packages
- ▶ Any other course (Master-level) from Computer Science, Computational Science, Logic, Artificial Intelligence, or Bioinformatics

YOU decide about much of the study programme

Want to go to industry ?

- ▶ Do your graduation project as an internship with a company

Want to go for a PhD / more ambitious job ?

- ▶ Combine
 - ▶ literature study
 - ▶ individual project
 - ▶ graduation project

for a more ambitious scientific research project of up to 48 EC
or almost a year of work

Admission to the Programme

For university students

- ▶ BSc degree in Computer Science or Informatica (or closely related subject)
- ▶ Other degrees: individual assessment

For HBO students

- ▶ BSc degree in Informatica (or closely related subject)
- ▶ Individual assessment of strengths and deficits
 - ▶ Additional courses from our BSc/MSc programmes as necessary

Why you should join the VU/UvA Master in Computer Science

10 good reasons:

- ▶ VU and UvA are among the top universities in Europe
- ▶ Learn from world-renowned scientists
- ▶ Small student groups
- ▶ Wide choice of courses
- ▶ Excellent teacher/student ratio
- ▶ Become part of a research group for your graduation project
- ▶ Modern state-of-the-art facilities
- ▶ International environment at home
- ▶ Excellent job market for graduates (academia or industry)
- ▶ Get two universities for the price of one

The End

More Information:

- ▶ www.vu.nl/ma-computerscience

Programme director:

- ▶ Dr Thilo Kielmann (thilo.kielmann@vu.nl)

These slides:

- ▶ <http://staff.fnwi.uva.nl/a.ponse/mastervoorlichting2016.pdf>

UvA contacts:

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