

UvA Master Evening February 15, 2018

— Computer Science —

A Joint Master Degree offered by:



UNIVERSITY OF AMSTERDAM



Your hosts today:

- ▶ **Stephen Swatman**
Master student Computer Science
- ▶ **Alban Ponse**
Associate prof. (UHD) Computer Science (UvA)
UvA program coordinator

Our programme today:

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



Who is us ?



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UNIVERSITY OF AMSTERDAM

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**Two 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 first-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 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 (42 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 (12–18 EC)
- ▶ Free Choice courses (30–36 EC)



Master Core (42 EC)

- ▶ **One** of the following courses:
 - History of Digital Cultures** (6EC)
placing CS into its societal and historical context
 - ICT 4 Development** (6EC)
on designing and deploying ICT projects in developing areas
 - E-Commerce Law** (6EC)
understanding of legal issues when doing business online
- ▶ **Literature Study and Seminar** (6 EC)
investigating existing solutions to a research question and presenting findings within one of the research groups
- ▶ **Graduation Project** (30 EC)
independently executing a project, turning everything learned so-far into a master piece



Track: Big Data Engineering (30 EC)

Track theme:

- ▶ The technology for transforming data into insights

Track core:

- ▶ Data Mining Techniques
- ▶ Information Visualization
- ▶ Large-Scale Data Engineering
- ▶ Web Services and Cloud-based Systems
- ▶ Web Data Processing Systems

Track coordinator:

- ▶ Dr Adam Belloum (aszbelloum.wixsite.com/aszbelloum)



Track: Computer Systems Security (30 EC)

Track theme:

- ▶ Security of computer systems, malware analysis and defense

Track core:

- ▶ Computer and Network Security
- ▶ Binary and Malware Analysis
- ▶ Secure Software
- ▶ Cybercrime and Forensics
- ▶ Kernel Programming

Track coordinator:

- ▶ Prof.dr Herbert Bos
(www.vusec.net/people/herbert-bos/)



Track: Foundations of Computing and Concurrency (30 EC)

Track theme:

- ▶ Formal methods, especially in concurrent programming

Track core:

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

Track coordinator:

- ▶ Dr Femke van Raamsdonk (www.cs.vu.nl/~femke/)



Track: Internet and Web Technology (30 EC)

Track theme:

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

Track core:

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

Track coordinator:

- ▶ Dr Jacopo Urbani (www.jacopourbani.it/)



Track: Parallel Computing Systems (30 EC)

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 (staff.fnwi.uva.nl/c.u.grellck/)



Track: Software Engineering and Green IT (30 EC)

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
(www.s2group.cs.vu.nl/people/patricia-lago/)



Ensuring the breadth of each individual study program

Constrained choice modules (12–18 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 (30–36 EC):

- ▶ Courses from other tracks (pre-approved)
- ▶ Other courses from constrained choice packages (pre-approved)
- ▶ Any course from your track's pre-approved list of suggestions
- ▶ Any other course (Master-level) from Computer Science, Computational Science, Logic, Artificial Intelligence, or Bioinformatics (to be approved by exam committee)



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 ?

- ▶ It is possible to combine
 - ▶ literature study
 - ▶ individual project
 - ▶ graduation project

to a larger scientific research project (up to 42 EC)



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

Some good reasons:

- ▶ VU and UvA are among the top universities in Europe
- ▶ Learn from renowned scientists
- ▶ Small student groups, staff is easily accessible
- ▶ Wide choice of courses
- ▶ 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 — links and more information

- ▶ `www.vu.nl/ma-computerscience`

Programme director:

- ▶ Prof.dr Wan Fokkink (`www.cs.vu.nl/~wanf/`)

UvA contacts:

- ▶ For BDE: dr Adam Belloum
(`aszbelloum.wixsite.com/aszbelloum`)
- ▶ For PCS: dr Clemens Grellck
(`staff.fnwi.uva.nl/c.u.grellck/`)
- ▶ General and for FCC: dr Alban Ponse
(`staff.fnwi.uva.nl/a.ponse/`)



These slides: my home page - MSc Computer Science (slide deck)

