UvA Master's Evening February 13, 2020

— Computer Science —

A Joint Master Degree offered by:









UvA Master's Evening February 13, 2020: Computer Science

Your hosts today:

- Marco BrohetMaster 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

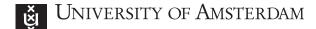




Who is us?









Two universities for the price of one !!





UvA and VU joint Master of Science Programme

Disadvantage:

► Two teaching locations: Zuidas and Science Park

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 . . .





MSc Computer Science UvA+VU

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 course (6 EC) on the social context of computer science:
 - History of Digital Cultures: on history of computing
 - ▶ ICT for Development: on ICT in developing countries
 - ▶ ICT4D in the Field: an ICT project in a rural community
 - ► E-commerce Law: on legal issues for on-line business
 - Entrepreneurship in AI and CS: on starting a company
- ► 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:

► How to cope with the enormous amounts of data on e.g. the Internet and social media and in companies

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
 (https://aszbelloum.wixsite.com/aszbelloum)



Track: Computer Systems Security (30 EC)

Track theme:

Security of computer networks from a system's point of view

Track core:

- Hardware Security
- Computer and Network Security
- ► Binary and Malware Analysis
- Advanced Operating Systems
- Distributed Algorithms

Track coordinator:

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



Track: Foundations of Computing and Concurrency (30 EC)

Track theme:

Apply formal methods in computing and concurrency

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:

 Large-scale parallel computing (clusters, grids, clouds, mainframes)

Track core:

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

Track coordinator:



▶ (For now) Dr. Jacopo Urbani (www.jacopourbani.it/)



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/)



Looking Beyond your Track

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 Courses

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:

Dr.ing. Thilo Kielmann (https://research.vu.nl/en/persons/thilo-kielmann)

UvA contacts:

- ► For BDE: dr. Adam Belloum
 (https://aszbelloum.wixsite.com/aszbelloum)
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 (https://staff.fnwi.uva.nl/a.ponse)
- ► For questions to Marco: (marco@brohet.net)

