UvA Master Evening November 9, 2017
— Computer Science —

A Joint Degree offered by:

VU UNIVERSITY AMSTERDAM

University of Amsterdam
Your hosts today:

- Petar Vukmirović
  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?

VU Universe of Amsterdam

+ University of Amsterdam

= Two universities for the price of one!!
UvA and VU joint Master of Science Programme

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 . . .
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 or 36 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 (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 (36 EC)

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
- Distributed 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:

▶ Systems Security
▶ Binary and Malware Analysis
▶ Software Exploitation
▶ 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:
- Logical Verification
- Advanced Logic
- Distributed Algorithms
- Term Rewriting Systems
- Protocol Validation

Track coordinator:
- Dr Femke van Raamsdonk (www.cs.vu.nl/~femke/)
Track: Internet and Web Technology (36 EC)

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
- Distributed Systems

Track coordinator:

- Dr Jacopo Urbani (www.jacopourbani.it/)
Track: Parallel Computing Systems (36 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
- Distributed Systems

Track coordinator:
- Dr Clemens Grelck (staff.fnwi.uva.nl/c.u.grelck/)
**Track:** Software Engineering and Green IT (36 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
- Distributed Systems

**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 (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 (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

10 good reasons:

- VU and UvA are among the top universities in Europe
- Learn from 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 — links and more information

▶ www.vu.nl/ma-computerscience

Programme director:
▶ Prof.dr Wan Fokkink (www.cs.vu.nl/~wanf/)

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