FNWI Master Evening 12 November 2015

— Computer Science —

A Joint Degree offered by:

UNIVERSITY OF AMSTERDAM

VU UNIVERSITY AMSTERDAM

Master Evening 12 November 2015: Computer Science

Your hosts today:

- **Thilo Kielmann**
  Associate prof. (UHD) Computer Science (VU),
  program director
- **Franz Geiger**
  MSc Computer Science student (yr 2)
- **Alban Ponse**
  Associate prof. (UHD) Computer Science (UvA)

Master Evening 12 November 2015: Computer Science

Your hosts today:

- **Thilo Kielmann**
  Associate prof. (UHD) Computer Science (VU),
  program director
- **Franz Geiger**
  MSc Computer Science student (yr 2)
- **Alban Ponse**
  Associate prof. (UHD) Computer Science (UvA)

Our programme today:

- Why a **Joint Master in Computer Science** in Amsterdam is the best we can offer you ...

Who is us ?

UNIVERSITY OF AMSTERDAM

+

VU UNIVERSITY AMSTERDAM

=

Two top 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 world-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 top position in industry (in NL and abroad)
- Leading to a position in industrial research
- Leading to a career in academia

Curriculum Structure

(Tentative program, details subject to change)

Four pillars:

- Master Core (54 EC)
- Choice of 6 tracks (30 EC):
  - Big Data Engineering
  - Computer Systems Security
  - Foundations of Computing and Concurrency
  - High-Performance Computing
  - Internet and Web Technology
  - 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:

- Programming Models for Big Data Infrastructures
- Performance Engineering
- Web Intelligence and Big Data
- Large-Scale Data Engineering
- Information Visualization

Track coordinator:

- N.N.

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: High-Performance Computing

Track theme:

- Large-scale parallel computing on clusters, grids, clouds and mainframes

Track core:

- Advances in Computer Architecture
- Parallel Programming
- Parallel Programming Practical
- Performance Engineering
- Scientific Visualization and Virtual Reality

Track coordinator:

- Dr Spyros Voulgaris (spyros@cs.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: 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 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, 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 industy)
- Get two universities for the price of one

The End

More Information:

- Google search: vu uva computer science 2015 (or so)

Programme director:

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

These slides:

- `http://staff.fnwi.uva.nl/a.ponse/mastervoorlichting2015.pdf`

UvA contacts:

- Dr Clemens Grelck (c.grelck@uva.nl)
- Dr Alban Ponse (a.ponse@uva.nl)