About UCL

• Established in 1826
  – First institution to welcome students of any race, class or religion, and female students on equal terms with men

• Today, a globally leading university with a strong research focus
  – 29 Nobel Prize Winners and 3 Fields Medalists
  – “London’s Global University”
UCL Computer Science

- 80 faculty, 300+ researchers
- Hosts the Science of Security Institute, recognized as Academic Centre of Excellence in Cybersecurity
- Ranked #1 in the UK as per recent Research Excellence Framework

Why Study Information Security at UCL?

- World-class faculty
- Cutting-edge research
- Hands-on experience and industry collaborations
- Balanced mix of theory and practice
Our Graduates

• Keenly sought by leading security organisations
  – UCL-CS international reputation, strong links with industry, and world-class research

• Top graduate destinations:
  – IBM, Ernst&Young, Cisco, KPMG

• Top graduate roles:
  – Security consultant, secure software designer, information protection advisor, security analyst

• Avg starting salary £31,200 (Jan 2013)
What We Teach

• Computer and Network Security
• Cryptography and Cryptanalysis
• Cybercrime
• Human-centered Security
• Privacy Technologies
• Software Security Engineering
Meet Our Faculty…

Earl Barr

• Research in program analysis, information theory, optimisation

• Teaches Malware

David Clark

• Research in analysis and verification, understanding software and specifications

• Teaches Malware, Language Based Security
Nicolas Courtois

- Research in cryptanalysis, crypto currencies, infosec
- Teaches Cryptanalysis, Applied Cryptography

George Danezis

- Research in anonymous comms, privacy technologies, cryptography engineering
- Teaches Computer Security I, Privacy
Emiliano De Cristofaro

- Research in applied crypto, privacy technologies, measuring security and privacy issues
- Teaches Computer Security II, Intro to Crypto

Brad Karp

- Research in systems security, wireless networks, distributed systems, networking, operating systems
- Teaches Distributed Systems and Security
Jens Krinke

• Research in program analysis, malware analysis, taint analysis, information flow control bug detection

• Teaches **Malware, Language Based Security**

Granville Moore

• Research Co-Ordinator of Institute in Science of Cyber Security (RISCS)

• Teaches **Information Security Management**
Steven Murdoch

- Research in authentication, passwords, banking security, anonymous comms, censorship resistance and covert channels

- Teaches Research in Information Security

Angela Sasse

- Research in human and economic aspects of security, usable security

- Teaches People and Security
Gianluca Stringhini

- Research in social network security, web security, botnet mitigation, and cyber crime
- Teaches Computer Security II, Cybercrime

Jens Groth

- Research in cryptography, zero-knowledge proofs
Sarah Meiklejohn

- Research in cryptography, crypto currencies

David Pym

- Research in security economics, policy, logic, access control
Our Modules

• Four **compulsory** modules
  1. Introduction to Cryptography
  2. Computer Security I
  3. Computer Security II
  4. Research in Information Security

• Four **optional** modules
  – From “official” MSc ISec modules
  – From other programmes
MSc ISec Optional Modules

Four **optional** modules to choose from:

- Applied Cryptography
- Cryptanalysis
- Privacy Technologies
- Malware
- Language based Security
- People and Security
- Information Security Management
- Cybercrime
- Distributed Systems and Security

Cryptography
Software Security
Human Centered Security
Network Security
Other optional modules: Examples

• Interested in **Software Security Engineering?**
  – Requirements Engineering and Software Architecture
  – Validation and Verification

• Or **Human Aspects of Security?**
  – Understanding Usability and Use
  – Organisational Psychology
  – Sociotechnical Systems: IT and the Future of Work

• More…
  – Human Computer Interaction, Communications and Networks, Entrepreneurship, Risk, Regulation and Compliance, Elliptic Curves, etc.
**Thesis**

- Independent piece of research
- Thesis (50+ pages) + oral exam
- Can be completed whilst working alongside a company

**Extra-Curricular Activities**

- Weekly InfoSec Seminars
  - Invited speakers
  - UCL academics, researchers, PhD students
- Weekly Hacking Seminar
- Bitcoin Research Seminar
- Industry Day
Options

• Full-time MSc programme
  – 8 modules and a thesis in one year

• Part-time MSc programme
  – 8 modules over 2 years and thesis in last year
  – Students must be available to follow modules during day time teaching hours

• Diploma
  – 8 modules but no thesis
Prerequisites

• Bachelors or Masters degree in
  – Computer Science
  – Mathematics
  – Or other quantitative discipline

• Application
  – Ability to understand theory
  – Programming and understanding of algorithms
  – Good English language skills
  – Interest in Information Security
Schedule

- Term 1: October – December
- Term 2: January – March
- Exams for all modules: May
- Thesis: June – August
  (Preparation: January - May)
- Oral exam: September
- Graduation: November
Personal tutor

• Member of academic staff
• Academic advice
  – Should I take module X or module Y?
  – My thesis adviser and I do not get along
  – …
• Confidential
• Problem with personal tutor
  – Course director, graduate tutor, Head of Dept

Student representative

• Speaks on behalf of the MSc group
• General issues that affect the entire group
  – Scheduling conflict between core modules
  – Suggestions for improvement
  – Etc
Relevant Contacts

Programme Director
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Admissions Tutor
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Programme Administrator
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More info

UCL MSc ISec

http://www.cs.ucl.ac.uk/admissions/msc_isec/

UCL Information Security Group

http://sec.cs.ucl.ac.uk
https://benthamsgaze.org/ (blog)

Academic Centre of Excellence in Cyber Security

http://sec.cs.ucl.ac.uk/ace_csr/

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