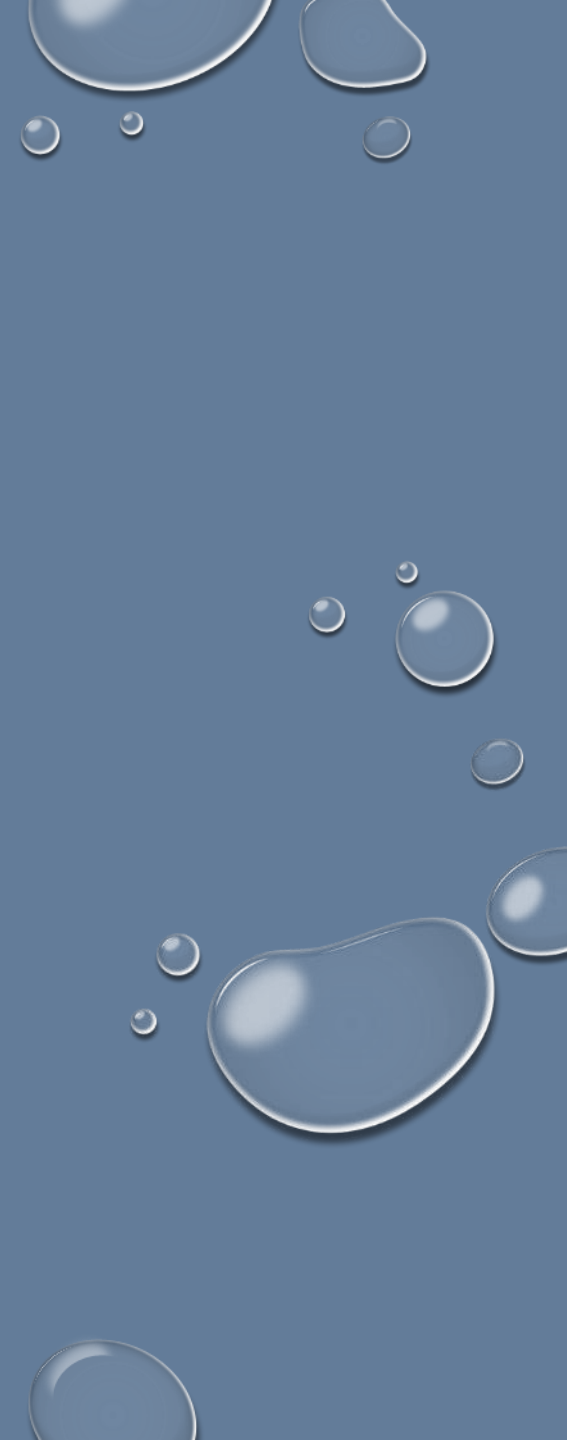


# DATA AND SYSTEM SECURITY

STEFANO CHESSA

DEPARTMENT OF COMPUTER SCIENCE



# ANNOUNCE (NOT RELATED TO DSS)

- YOU HAVE TO CHOOSE THE COURSE IN GROUP A, BETWEEN:
  - SYSTEM AND LANGUAGES FOR INFORMATICS
  - ELECTRONIC AND COMMUNICATION TECHNOLOGIES
- IN GENERAL, IF YOU COME FROM COMPUTER ENGINEERING OR COMPUTER SCIENCE YOU HAVE TO TAKE ELECTRONIC AND COMMUNICATION TECHNOLOGIES, OTHERWISE YOU HAVE TO TAKE SYSTEM AND LANGUAGES FOR INFORMATICS
- FOR ANY DOUBTS OR QUESTIONS ABOUT IT PLEASE WRITE ME (AND APPEND THE LIST OF YOUR EXAMS IN YOUR B.SC.)

# GENERAL INFORMATION ON DSS

- MY OFFICE IS AT THE DEPARTMENT OF COMPUTER SCIENCE
  - LARGO PONTECORVO 3
- OFFICE HOURS FOR STUDENTS
  - ONLINE, BY APPOINTMENT
  - IN PRESENCE, MONDAY 10-12 (BETTER TO E-MAIL ME BEFORE COMING)
- MATERIAL:
  - SLIDES & PAPERS
- BOOK
  - COMPUTER SECURITY – PRINCIPLES AND PRACTICE, W. STALLINGS, L. BROWN, 4° EDITION, PEARSON
- WEB SITE
  - [HTTPS://ELEARNING.DI.UNIPI.IT/COURSE/VIEW.PHP?ID=177](https://elearning.di.unipi.it/course/view.php?id=177)

# ABOUT RECORDINGS

- THE CLASSES WILL BE IN PRESENCE
- AND I WILL TRY TO RECORD THE CLASSES AND MAKE THEM AVAILABLE, BUT WITHOUT ANY GUARANTEE (BEST EFFORT SERVICE)
- SLIDES AND OTHER MATERIAL IS IN THE MOODLE.

# PROGRAM

- ELEMENTS OF COMPUTER SECURITY: THREATS, ATTACKS, SECURITY REQUIREMENTS AND DEFENSE STRATEGIES, ELEMENTS OF CRYPTOGRAPHY. [6 HOURS]
- USER AUTHENTICATION AND ACCESS CONTROL [10 HOURS]
- SECURITY IN DATABASES AND DATACENTERS [4 HOURS]
- ATTACKS: MALWARE, BUFFER OVERFLOW, DENIAL OF SERVICE [12 HOURS]
- INTRUSION PREVENTION AND DETECTION [4 HOURS]
- OPERATING SYSTEM SECURITY: VIRTUALIZATION, LINUX AND WINDOWS SECURITY [20 HOURS]
- BLOCKCHAINS [4 HOURS]
- SECURITY IN MOBILE AND CYBER-PHYSICAL SYSTEMS [4]
- CROWDENSING AND POISONING ATTACKS [2]
- HANDS-ON CLASSES (SPREAD ALL AROUND) [8 HOURS]

# GENERAL INFORMATION

## TIMETABLE

- MONDAY 11.30-13.30, ROOM F8
- MONDAY 17.00-19.00, ROOM C32
- TUESDAY 17.00-19.00, ROOM C32
- NOTE:
  - TOMORROW THERE IS AN EXCHANGE OF HOURS WITH ORGANIZATIONAL SCIENCE.
  - THE CLASS WILL BE TAKEN BY PROF. NICCOLINI
  - I WILL TAKE BACK THE HOURS ON NOVEMBER 15<sup>TH</sup>, 16:00-18:00, ROOM B23

# EXAM

## ORAL EXAM

THE CHALLENGES WILL BE REPLACED WITH HANDS ON CLASS (TENTATIVE) AND WILL NOT GIVE AN INCREMENT AT THE EXAM

THE REGISTRATION TO THE EXAM (ON THE “ESAMI” PORTAL) AND THE SLOT RESERVATION FOR THE ORAL EXAMINATION ON THE MOODLE ARE BOTH MANDATORY (SEE NEXT SLIDES).

# ORAL EXAM

- AT THE ORAL EXAM I WILL ASK THEORETICAL QUESTIONS AND I MAY ALSO ASK A QUESTION ON THE HANDS-ON CLASSES
- IN ADDITION, I MAY ASK TO SOLVE AN EXERCISE SIMILAR TO THOSE PRESENTED AT THE CLASSES.



# EXAM

## REGISTRATION:

- THE PARTICIPATION TO AN EXAM SESSION REQUIRES A MANDATORY REGISTRATION ON THE UNIVERSITY PORTAL [HTTPS://ESAMI.UNIPI.IT/](https://esami.unipi.it/)
- AFTER THE REGISTRATION ON THE UNIVERSITY PORTAL, YOU SHOULD ALSO RESERVE YOUR SLOT FOR THE ORAL TEST ON A SPECIFIC DAY AND TIME WINDOW. SEE IN THE MOODLE THE SECTION 'ORAL TESTS ORGANIZATION'