

IDENTIFICATION

Course code : SR502
ECTS : 1

DURATION

Lectures : 0
Tutorial classes : 16
Labs : 8
Total : 24

Project :
Personnal work :

ASSESSMENT

Continuous assessments and practical evaluations.

TEACHING MATERIALS

Slides and practical work sheets.

LANGUAGE

English

CONTACT

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Modifié le : 14 juillet 2026

UE : UE5-SYSRES

COURSE : System Administration : Concepts, Tools and Services

SCOPE OF THE COURSE

OBJECTIVES

The aim of this course is to provide basic knowledge of operating systems, their use, various utilities, and task automation scripts.

COMPETENCE AND SKILLS

Manually deploy and administer services

PROGRAM

- Operating modes and functions of an operating system
- Processes : representation, operations, lightweight processes (Unix and Java threads), processor : state switching, interrupts.
- Synchronization and concurrency : the mutual exclusion problem, semaphores, monitors, classic mutual exclusion and synchronization problems, concurrent programming in CSP, Java.
- Information management : link editing, execution stack.
- Main memory management : zone-based, paging, segmentation management.
- File management : sequential access, direct access, hash-coding.
- User management : Login, basic commands, groups and user identification
- File system management : concepts, protections, main commands for file and directory management, disk device management.
- User and process management : understanding rights and priority management under Unix, process states and current management.
- Advanced commands : Redirections, piping, Sed, awk, regexp
- The shell : Different shells, Environment variables, Script writing.
- Network operations : X11, standard network commands (traceroute, ping, nmap, ...).

BIBLIOGRAPHY

- Operating Systems : Three Easy Pieces. Remzi H Arpaci-Dusseau, Andrea C Arpaci-Dusseau (2020)
- Operating System Concepts (Tenth Edition). Abraham Silberschatz, Peter B. Galvin, Greg Gagne (2018)

REQUIREMENTS

No prerequisites