

CSCE604227 System Programming

CSCE604227 Pemrograman Sistem

Week 00: Overview

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Sendirian Berhad

<https://sp.vlsm.org/Slides/sp00.pdf>

Always check for the latest revision!

REV022 13-Feb-2023

SP221¹): System Programming

Week	Topic
Week 00	Overview
Week 01	Linux Kernel and Programming Interface
Week 02	Revisit Linux From Scratch
Week 03	FUSE: Filesystem in Userspace
Week 04	Project FUSE 1
Week 05	Project FUSE 2
Week 06	Project FUSE 3
Week 07	Project FUSE 4
Week 08	Project FUSE 5
Week 09	Project FUSE 6
Week 10	Project FUSE Presentation

¹) This information will be on **EVERY** page two (2) of this course material.

- ❑ **Text Book** — The Linux Programming Interface, 2010, No Starch Press, ISBN 978-1-59327-220-3 — <https://man7.org/tlpi/>.
- ❑ **Resources**
 - ❑ **SCELE** — <https://scele.cs.ui.ac.id/course/view.php?id=3545>.
The enrollment key is **XXX**.
 - ❑ **Download Slides and Demos from GitHub.com**
<https://github.com/os2xx/sysprog/>:
[sp00.pdf \(W00\)](#), [sp01.pdf \(W01\)](#), [sp02.pdf \(W02\)](#), [sp03.pdf \(W03\)](#),
[sp04.pdf \(W04\)](#), [sp05.pdf \(W05\)](#), [sp06.pdf \(W06\)](#), [sp07.pdf \(W07\)](#),
[sp08.pdf \(W08\)](#), [sp09.pdf \(W09\)](#), [sp10.pdf \(W10\)](#).
 - ❑ **LFS** — <http://www.linuxfromscratch.org/lfs/view/stable/>
 - ❑ **OSP4DISS** — <https://osp4diss.vlsm.org/>
 - ❑ **This is How Me DO IT!** — <https://doit.vlsm.org/>
 - ❑ PS: "Me" rhymes better than "I" duh!

Agenda

- 1 Start
- 2 Schedule
- 3 Agenda
- 4 How to contact the Lecturer
- 5 Assessment
- 6 Final Grade
- 7 The Three-Strikes Rule
- 8 Assignments
- 9 This is an elective course!
- 10 Miscellaneous

How to contact the Lecturer

- **Always introduce yourself.** State your "GitHubAccount", "Student ID", "Hypervisor", and "SP class".
- Post a question/query on **SCELE SP231** — (The enrollment key is **XXX**): <https://scele.cs.ui.ac.id/course/view.php?id=3545>.
- For SIAK related questions, use email:
(Subject:[**SP**]) rms46(AT)ui.ac.id.
- **DO NOT** send an email for assignment-related questions.

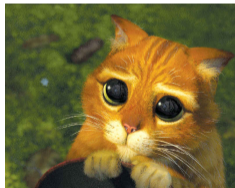


Figure: Never ever whine and pretend like this¹!

¹"Puss in Boot" is a DreamWorks/Paramount Picture character.

Emails between a "Gen Z" and a "Babyboomer"

selamat malam pak,

saya cicak salah satu mahasiswa sistem operasi di kelas bapak,
dengan username : cbkadal

1 saya ingin bertanya, kenapa XXXXX YYYYY ZZZZZ ya pak??

XXXXX YYYYY ZZZZZ, kalau boleh tau kesalahan saya dimana ya pak??

untuk | 2 atianya saya ucapkan terima kasih.

Salam,

Cicak Bin Kadal

Hallo Gen Z Zaman Now!

1 Kalimat baru seharusnya selalu dimulai dengan huruf besar.

2 Tanda baca seperti ":" (titik dua) seharusnya tanpa spasi. "Ini betul :", "Ini salah :".

3 Mengapa sampai lebih dari satu tanda-tanya??????????????????

Salam,

Babyboomer.

- **11 Weekly Assignments @ 11.11 points.**
 - Assignments will vary from week to week.
 - The assignment deadline will be by the end of every week. See <https://sp.vlsm.org/#idx02>.
 - Check your points regularly at <https://academic.ui.ac.id/>
 - See also, <https://sp.vlsm.org/Log/>.
 - **DO NOT COMPLAIN** weeks after!
- You need to log your weekly activities!
 - See <https://osp4diss.vlsm.org/ETC/logCodes.txt>
 - See <https://cbkadal.github.io/sp231/TXT/mylog.txt>
 - **3 SKS** (Units) means 9 hours (540 minutes) per week!

Final Grade (1)

- The final grade will be the best 9 out of 11 assignments.
- Do not ask for any dispensations like a broken computer, circumcision (sunat), cold, competitions (including Gemastik), deadline extension, influenza, lame excuses, marriage, mourning, power failure, remedial, return to the village (mudik), slow network (lemot), two-semester evaluation, umrah, weddings, etc.
- It also includes: "It is not my fault but of $\{X: X \in \text{Lecturer} \parallel \text{Fasilkom} \parallel \text{UI} \parallel \text{Kampus Merdeka} \parallel \text{Immigration} \parallel \text{Foreign Embassy} \parallel \text{else}\}$."
- **Two (2) "spare" assignments will be more than enough!**
- In case of emergency, contact your Academic Advisor!

Final Grade (2)

- C-2C (C minus to C)
 - Up to 5 points, only if:
 - your grade is between 50.00 and 55.00, and
 - you have a "good" track record.
- Score Range

85 - ... = A	80 - 85 = A-	75 - 80 = B+	70 - 75 = B
65 - 70 = B-	60 - 65 = C+	55 - 60 = C	50 - 55 = D or C ¹
40 - 50 = D	30 - 40 = E	20 - 30 = E	00 - 20 = E

¹C-2C: terms and conditions apply — void where prohibited by law.

The Three-Strikes Rule



- All major academic rules violations will be handled directly by the Faculty of Computer Science, University of Indonesia.
- "Accidents" may happen. There will be warnings for the first two minor violations.
- Your final grade will be reduced for the third warning.
- Your final grade will be reduced to "D" for the fourth warning.
- Five (5) or more warnings will be considered as a significant academic-rules violation.

Assignments

- There will be no mid-term (UTS) nor final-term (UAS). Instead, there will be 11 weekly assignments. Your grade will be taken from the best 9 out of 11 assignments.
- You need to run "VirtualBox" on a computer with more than 4GB RAM and up to 64 GB disk space.
- Each assignment deadline will be by the end of that "week". The weekly schedule will be at <https://sp.vlsm.org/#idx02>.
- Submit (push) the assignments to <https://github.com/>. If you still don't have one, you need to sign up for a <https://github.com/> account. More information will follow.
- See the assignment list at <https://osp4diss.vlsm.org/ASP.html>.

This is an elective course!

- You are not required to take this course!
- This course is not for you if you:
 - do not like the Operating Systems course.
 - do not like to get your hands dirty.
 - do not have enthusiasm nor initiative at all.
 - do not like to "hack".
- Cold Feet? Second Guess? You might want to drop this course now (this week)!
- This is the way!

Out of Topic/Intermezzo/Segue

- Semiconductor Scalling:
 - Process Shrink: $10\mu\text{m}$ (1971), 250nm (1996), 10nm (2016), 5nm (2020), 3nm (2022).
 - Smaller Devices means:
 - Less space.
 - Less power consumption.
 - More density.
- Indonesia:
 - Fairchild Semiconductor Indonesia.
 - National Semiconductor Indonesia.
 - Minister of Manpower (Menteri Tenaga Kerja) 1983–1988.
- Technology:
 - SoC: System on a Chip.
 - SiP: System in a Package.
 - Fab/Foundry: Taiwan Semiconductor Manufacturing Company (TSMC), Ltd.
 - Have No Fab? It is OK! E.g., Marvell Technology, Inc (1995).
 - Lithography: ASML Holding, N.V: Advanced Semiconductor Materials Lithography.
 - Optics: Carl Zeiss SMT GmbH (This is NOT Optik Seis, Duh :).

TSMC Logic Nodes

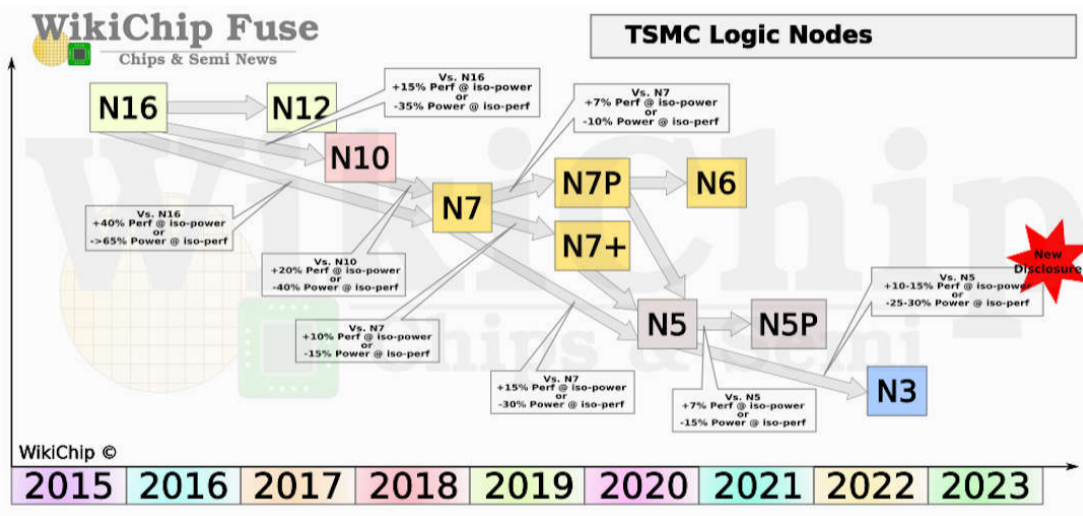


Figure: Source: [WikiChip](#)

The Computing Disciplines

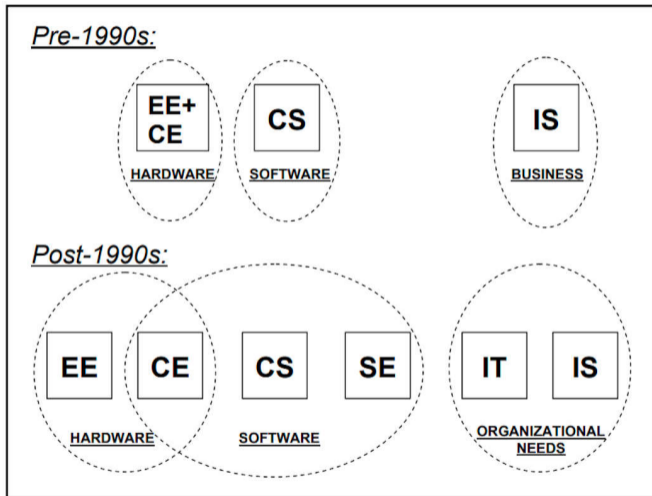


Figure 2.1. Harder Choices: How the Disciplines Might Appear to Prospective Students
Computing Curricula 2005