

# Course start, introduction and overview

## Module 0 Lecture (part 2, Karl)

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DSP (1DT003) & OSPP (1DT096)

Spring 2026

# Teaching staff

# Karl Marklund



**Course responsible lecturer for OSPP and will give all OS  
related lectures for DSP**

# Lars-Åke Nordén



Course responsible lecturer for DSP

# Aletta Nyilén



Scientific writing (period 4)

# Teaching assistants



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Irma  
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(IF)



Jonatan  
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(JA)



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Tiljander  
(JT)



Katerina  
Ioannidou  
(KI)



Martin  
Kalling  
(MK)



Mehmetali Semi  
Yenimol  
(MY)



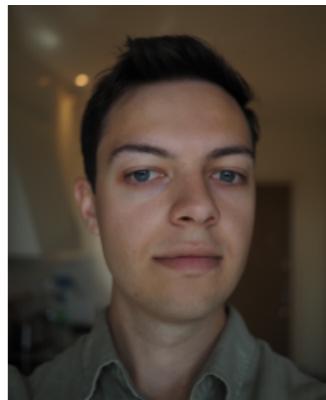
Oskar  
Smedman  
(OS)



Per Eric  
Rosén  
(PR)



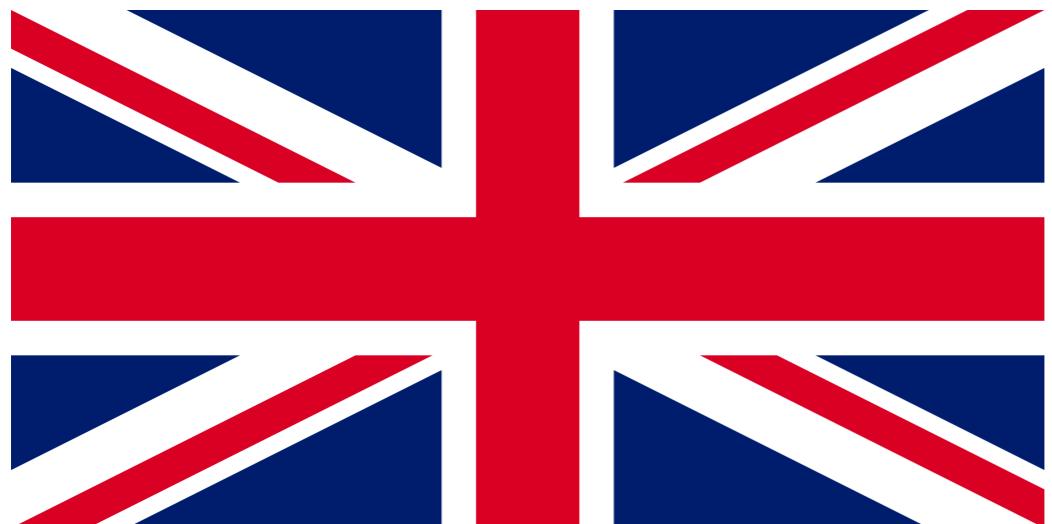
Rashid  
Aligholipour  
(RA)



Simon  
Lallo  
(SL)



**Föreläsningar  
kommer ges på  
svenska.**



**Kursmaterialet** kommer till  
största delen att vara på  
**engelska.**

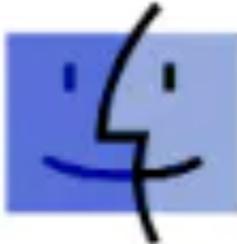
Många kursassistent talar inte  
svenska. Därför bör du vara  
beredd att kommunicera på  
**engelska** med assistenter på  
kursen under **handledning** och  
muntlig **examination**.

# Operating systems

# A few operating systems you may be aware of



Windows



FreeBSD®



redhat.



Sun Cobalt

# What about these operating systems?



**Micriuum**<sup>®</sup>  
Embedded Software



**MICROEJ**<sup>®</sup>



**ARM**<sup>®</sup>mbed™

**Contiki**

**NUCLEUS**

**android**  
things

Windows IoT



**snappy**

# These are a few examples of operating systems for embedded systems



**Micriuum®**  
Embedded Software



**MICROEJ®**



**ARM®mbed™**

**Contiki**

**NUCLEUS**

**android  
things**

**Windows IoT**



**MONGOOSE OS**

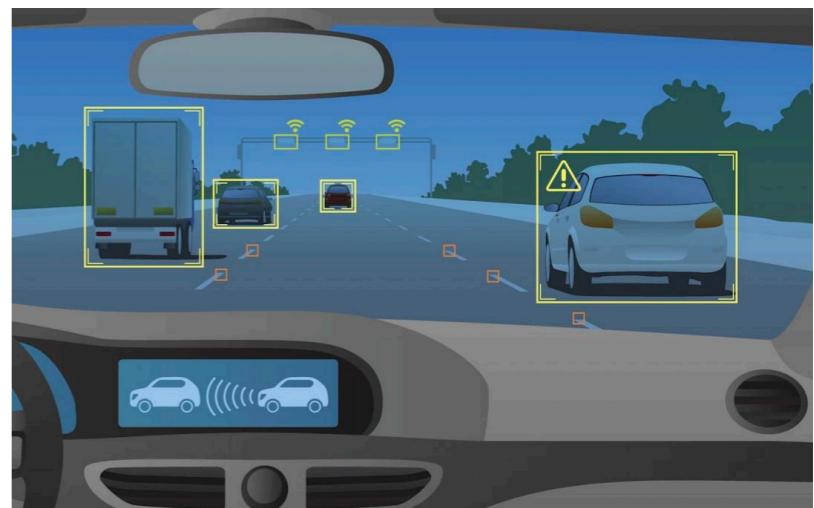
**snappy**

# Real-Time



# Real-time

Real-time processes have very **strong scheduling requirements**.



- ▶ Such processes should never be blocked by lower-priority processes.
- ▶ Should have a **short response time**.
- ▶ Most important, **response time** should have a **minimum variance**.

Typical examples:

- ▶ Video and sound applications, robot controllers, and programs that collect data from physical sensors.

# Operating Systems

- ▶ What is an operating system?
- ▶ Why is this interesting?
- ▶ Why should we learn about this?

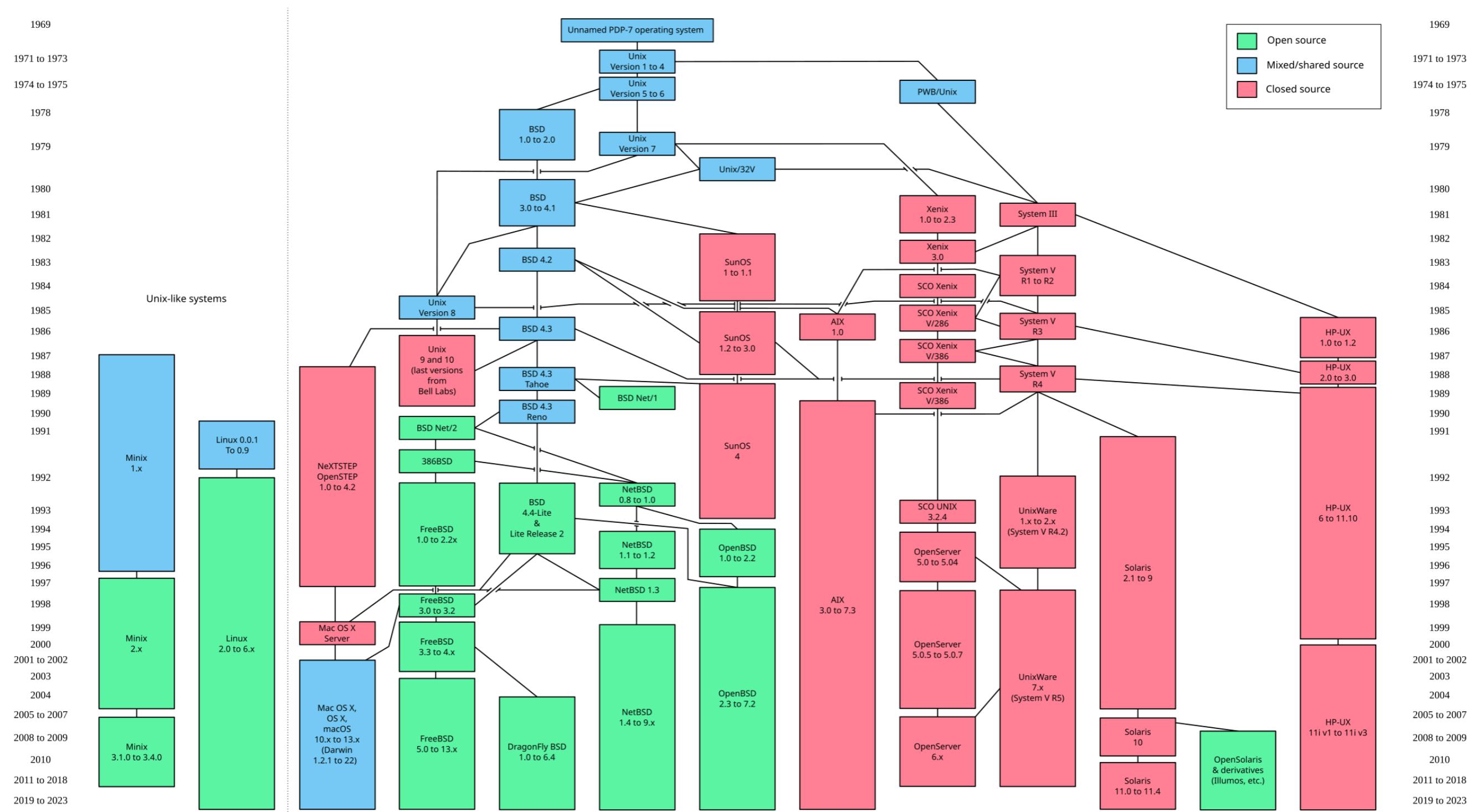
# Fundamental principles

In this course you will learn the fundamental **principles** of operating systems.

We will base our study on **Unix** and **Linux** but the principles will be more or less universal.

# Unix and Unix-like Operating systems

# History of Unix and Unix-like operating systems



Image

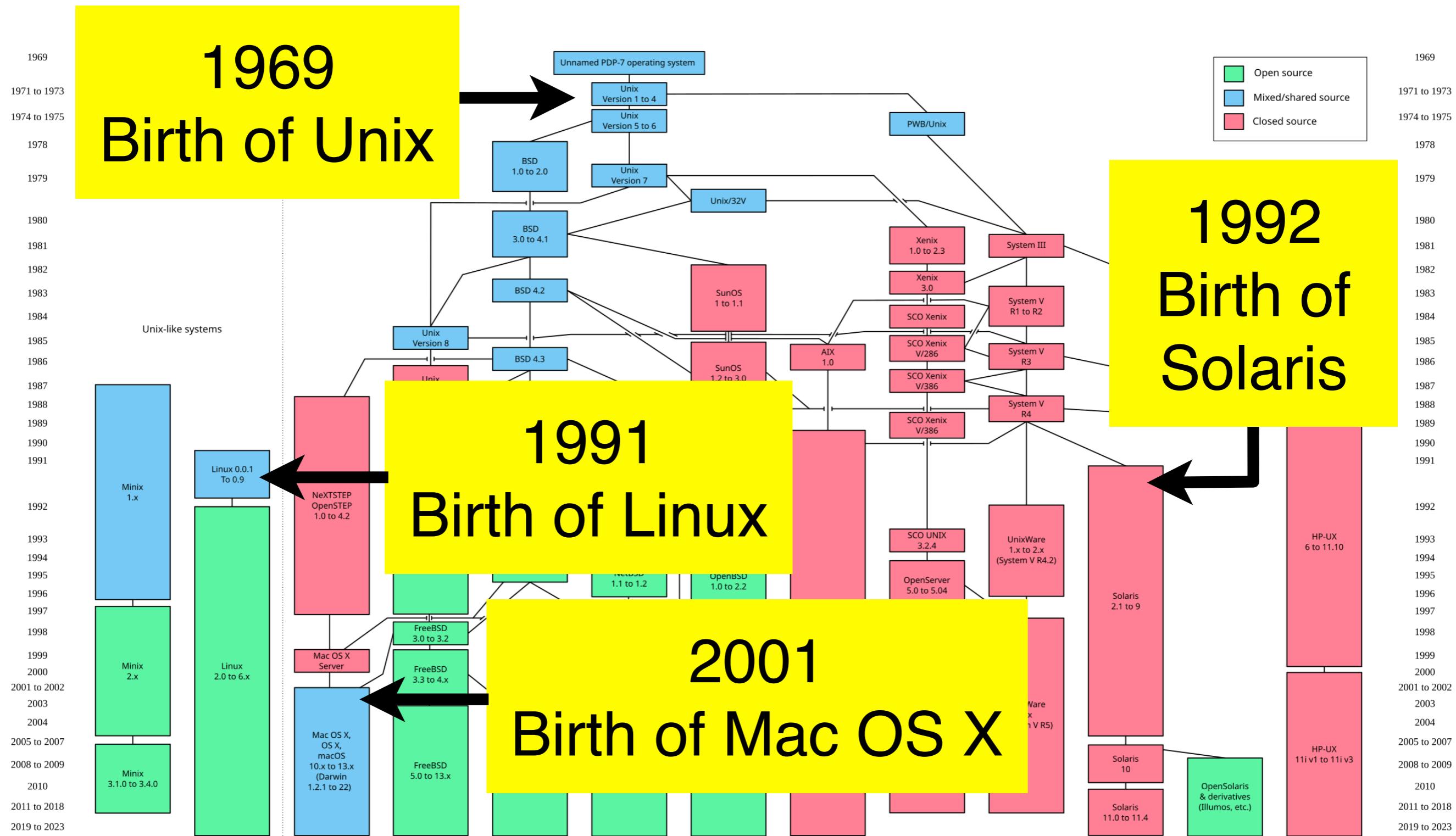
[https://en.wikipedia.org/wiki/History\\_of\\_Unix#/media/File:Unix\\_history-simple.svg](https://en.wikipedia.org/wiki/History_of_Unix#/media/File:Unix_history-simple.svg)

2025-01-18

Read more

[https://en.wikipedia.org/wiki/History\\_of\\_Unix](https://en.wikipedia.org/wiki/History_of_Unix)

# History of Unix and Unix-like operating systems



Image

[https://en.wikipedia.org/wiki/History\\_of\\_Unix#/media/File:Unix\\_history-simple.svg](https://en.wikipedia.org/wiki/History_of_Unix#/media/File:Unix_history-simple.svg)

Read more

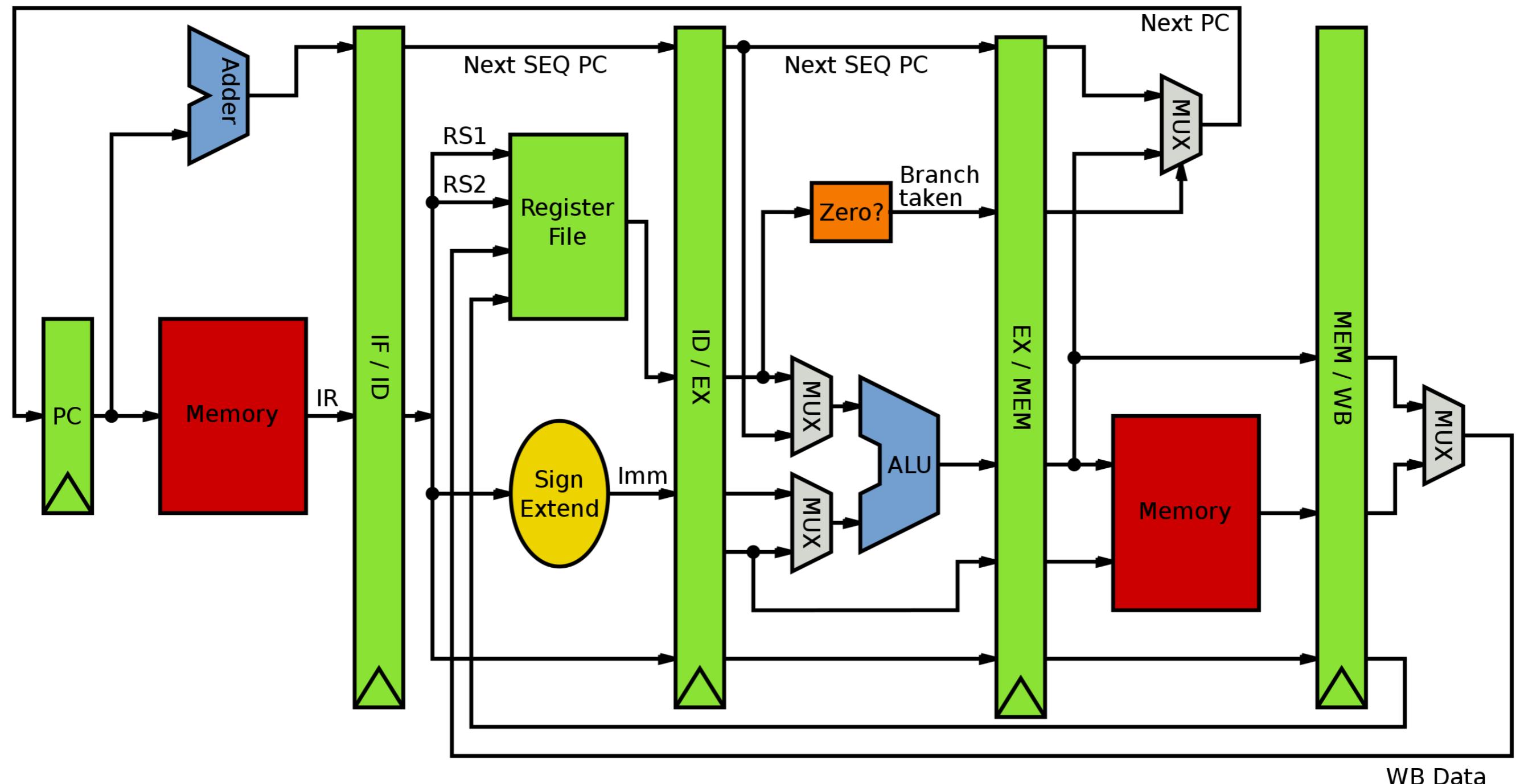
[https://en.wikipedia.org/wiki/History\\_of\\_Unix](https://en.wikipedia.org/wiki/History_of_Unix)

2025-01-18



For simplicity, our studies will be based on systems using a **single core** MIPS CPU.

Instruction Fetch | Instruction Decode Register Fetch | Execute Address Calc. | Memory Access | Write Back  
 IF | ID | EX | MEM | WB



To study the principles of operating systems, we will use MIPS Assembly and C programming.



C

x = y + x;

## MIPS assembly

add \$t2, \$t0, \$t1 # \$t2 = \$t0 + \$t1

## Machine code (hex)

0x01095020

## Machine code (bin)

0000 0001 0000 1001 0101 0000 0010 0000

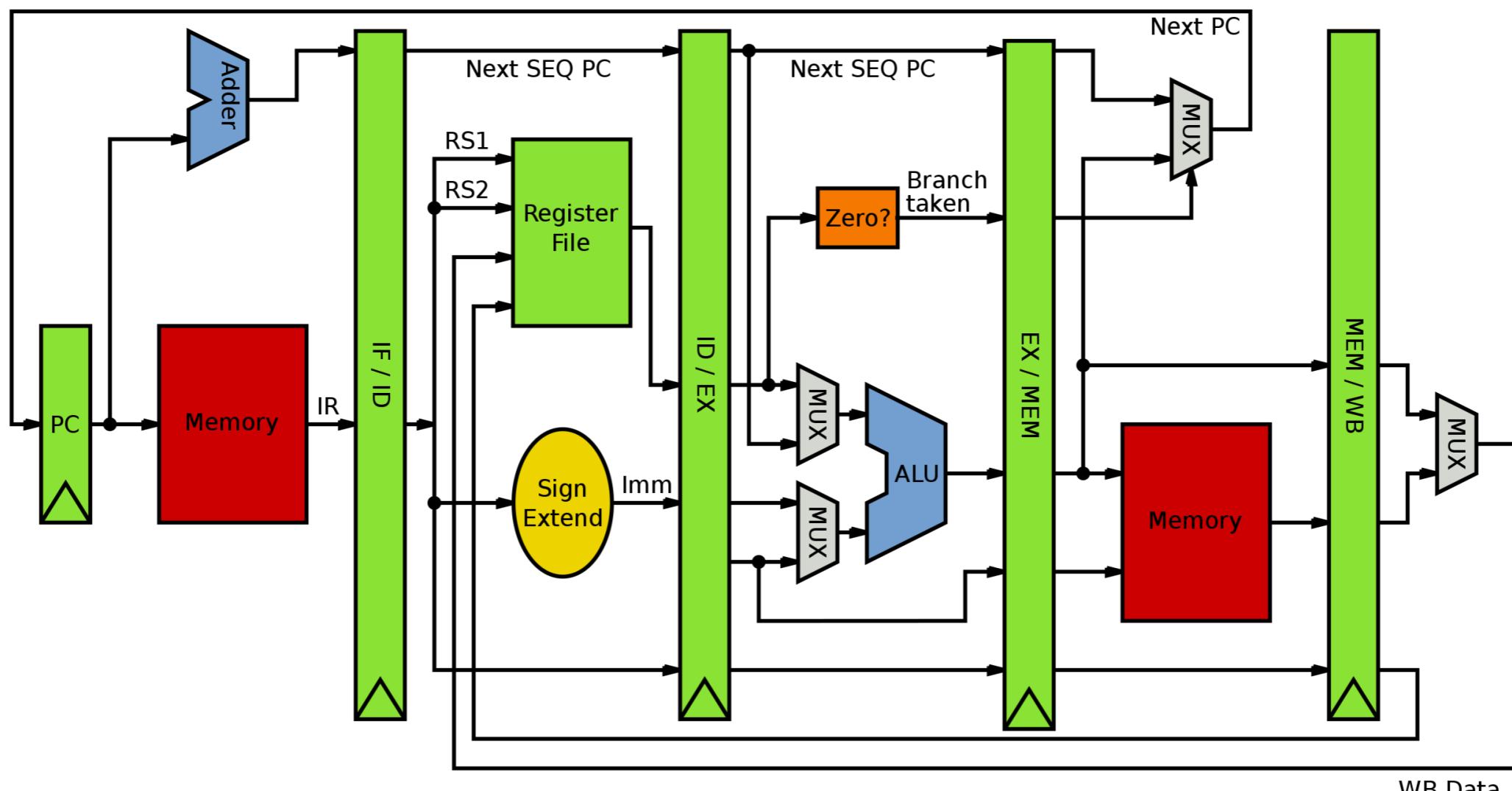
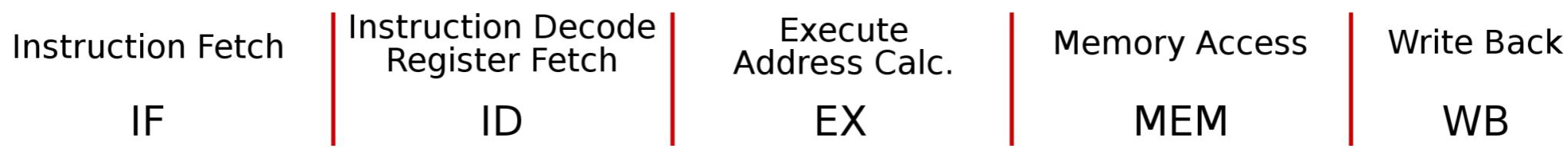
## Decoded machine instruction

0000 0001 0000 1001 0101 0000 0010 0000

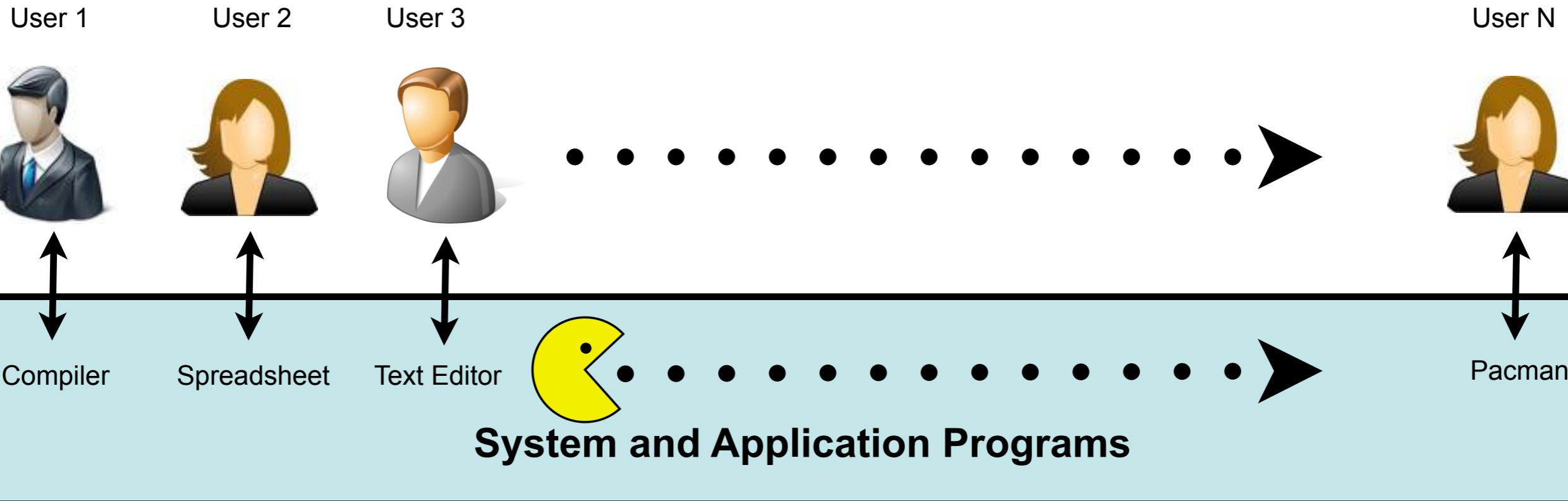
	op	rs	rt	rd	shamt	funct
Bin	000000	01000	01001	01010	00000	100000
Dec	0	8	9	10	0	32

The bits in the decoded machine instructions becomes control signals for various multiplexers and other units inside the CPU.

	op	rs	rt	rd	shamt	funct
Bin	000000	01000	01001	01010	00000	100000
Dec	0	8	9	10	0	32



**what is an  
Operating  
system?**



# Operating System

**Controls the hardware and coordinates its use among the various application programs for the various users.**

## Computer Hardware



## System and Application Programs

# Operating System

You will learn how an operating system provides an **environment for programs to execute** (on a single core CPU) **seemingly “at the same time”** sharing the CPU without the programs **knowing about each other** or knowing the details of the actual **hardware**.

## Computer Hardware

# **Learning about operating systems is both useful and fun**

You leverage what you learned in other courses

- ▶ Computer architecture
- ▶ Assembly programming
- ▶ C programming

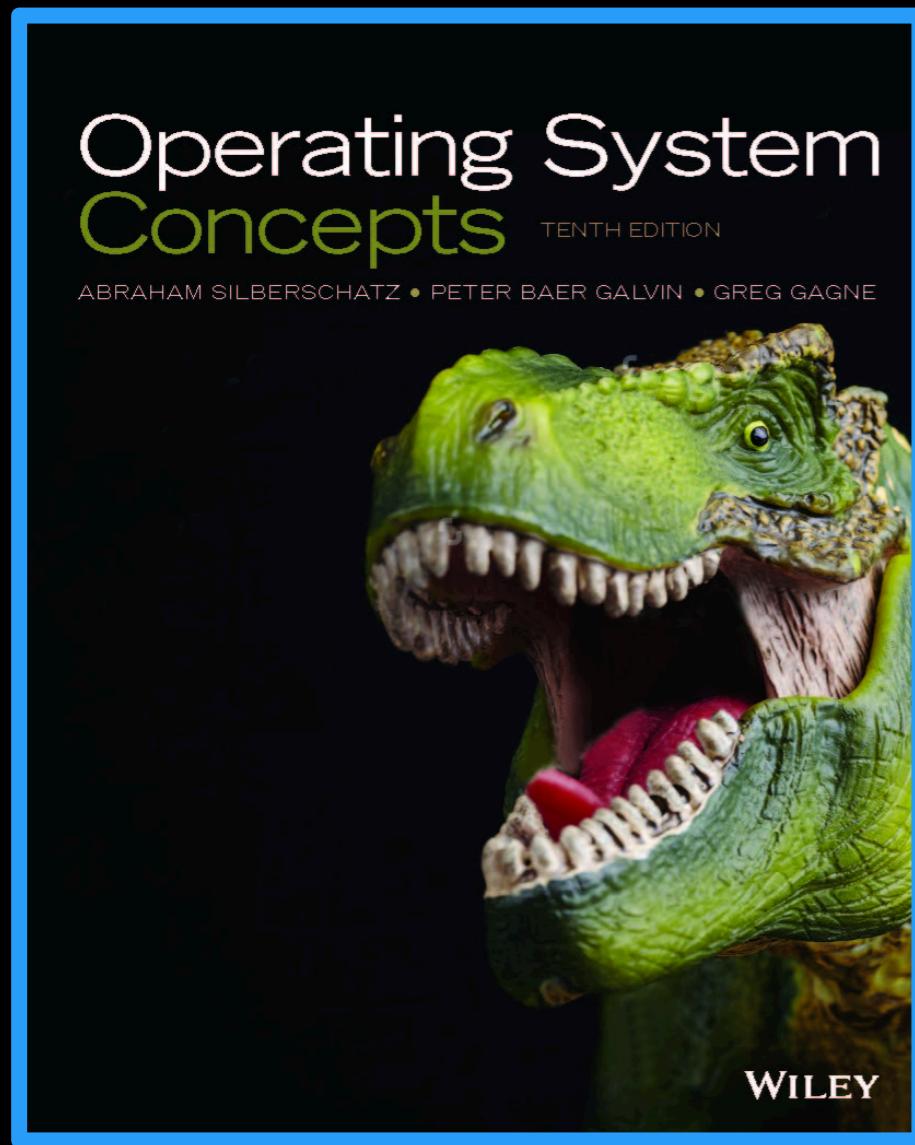
After this course you will have a better understanding of what is happening "under the hood" and thereby **become** a much **better engineer** and/or **programmer** and/or **scientist**.



After completing this course you should have **enough knowledge to program** a small and **simple operating system** all by yourself if you put in some effort.

# No text book required

There are no required text books for the courses. If you would like to have a text book for the OS related material, the following book is highly recommended.



**Operating System Concepts**

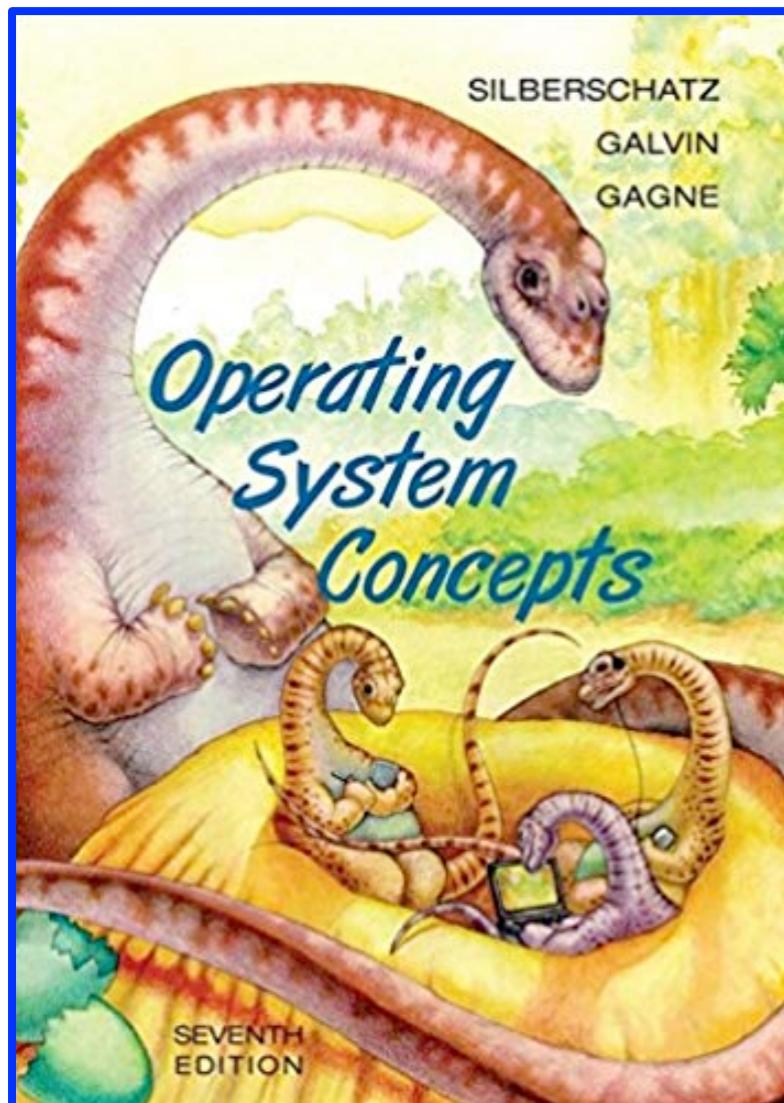
10th edition

Avi Silberschatz

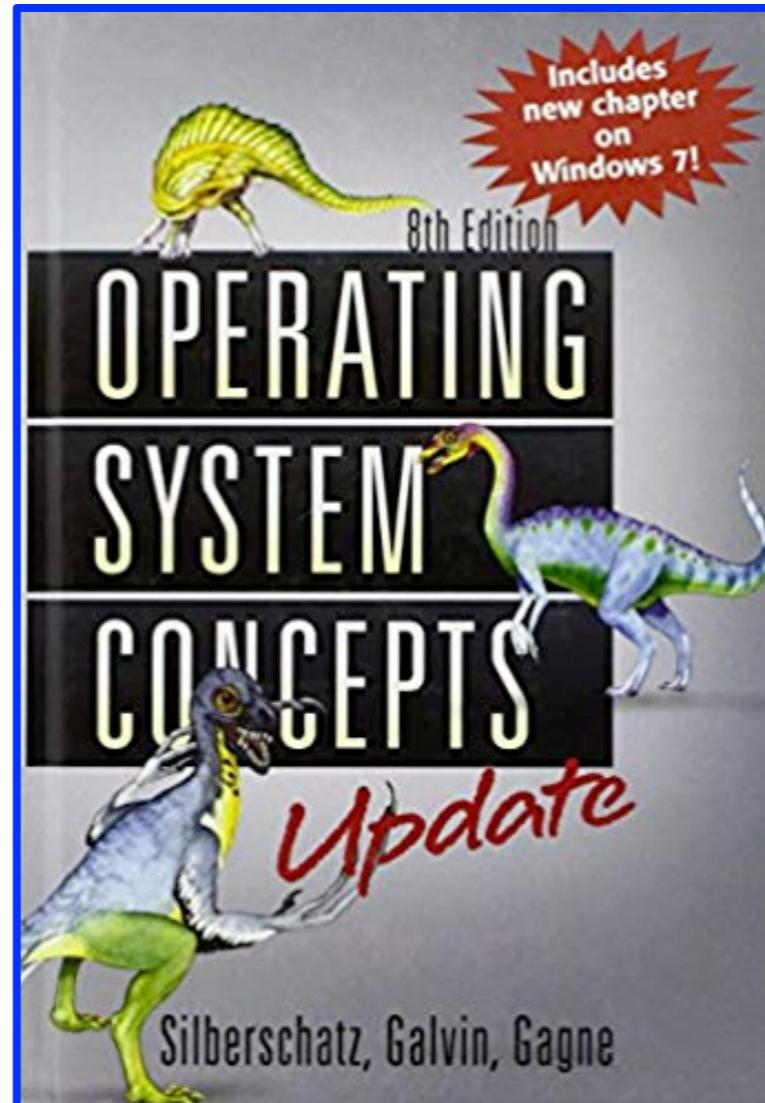
Peter Baer Galvin

Greg Gagne

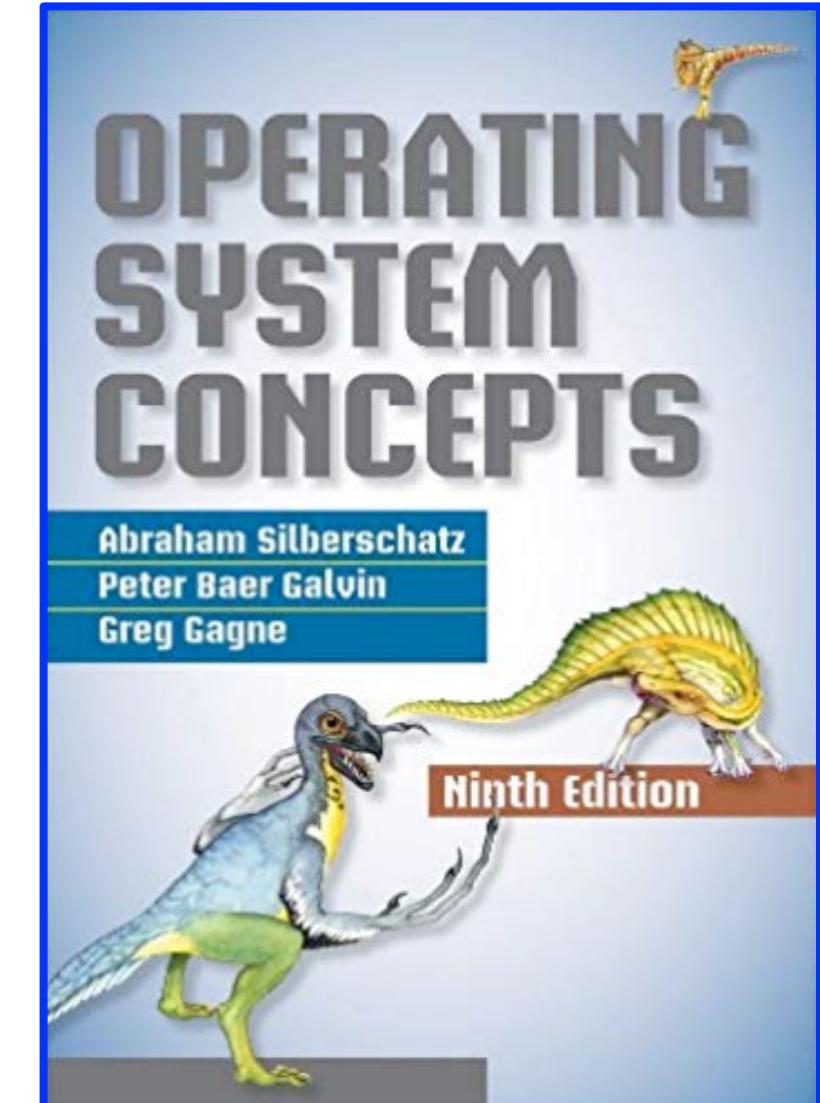
Older editions will do just as fine as the latest 10th edition.



7th edition



8th edition



9th edition

# Modules

Both the OSPP and the DSP courses are organised in modules.

# OSPP (IDT096)

Module	Description	Programming
0	Course overview and preparations.	
1	Fundamental concepts.	<b>MIPS assembly</b>
2	The process concept and inter process communication. File descriptors, standard streams, and I/O redirection.	<b>C</b>
3	CPU Scheduling.	
4	Threads, synchronization and deadlock.	<b>C</b>
5	Memory management, files and file systems.	
6	Written exam and exam preparations.	
7	Concurrency models.	<b>Erlang</b>
8	Group project.	Any language(s) you want

# Studium

<http://studium.uu.se>

All course information can be found in  
Studium.

Make sure you can log in and find the  
DSP (1DT003) or OSPP (1DT096)  
course.

# Communication channels



# Announcements

The screenshot shows the Studium course interface for course 1DT096 61236. On the left, a sidebar lists navigation options: Student, Account, Syllabus, Announcements (highlighted with a blue arrow), People, Assignments, Grades, and Ladok for students. The main content area displays course information: VT2026, Home, Timeline, Modules, External Feeds, and a search bar. A large announcement is shown: "Välkommen till kursen Operativsystem och processororienterad programmering (1DT096) våren 2026" by Karl Marklund, posted on 10 Jan 2026, 18:10.

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VT2026

Home

Timeline

All

Search...

Mark all as read

External Feeds

Välkommen till kursen Operativsystem och processororienterad programmering (1DT096) våren 2026

Posted on: 10 Jan 2026, 18:10

All sections

Jag heter Karl Marklund och är kursan...

Announcements

People

Assignments

Grades

Ladok for students

The teaching staff will use the Announcements (Anslag) in Studium to communicate important information during the courses.



# Discord

Join the **OSPP/DSP 2026** Discord server.

<https://discord.gg/6KBMnwUVFy>



Here the teaching staff will create separate channels for each module etc.

You will also find the Discord join link in Studium.



Minimise the use of emails and private messages in Studium when communicating with the teaching staff.

If other students will benefit from the answer and discussion, use the **OSPP/DSP 2026** Discord Server.

## OSPP/DSP 2026



### Text Channels



# general



# m0

# m1

# m2

# m3

# m4

# m5

# typos

The **OSPP/DSP 2026** Discord server will be used for discussions during the course.

- ▶ There is one channel for each course module, for example the channel **#m0** for Module 0.
- ▶ Please post and discuss in the appropriate channel.

All students are encouraged to:

- ▶ ask questions related to the logistics of the course
- ▶ ask questions related to the course material.

Report typos you find in slides, Studium pages and assignment instructions in the **#typos** channel.

**Students** are especially encouraged to discuss problems understanding:

- ▶ material in the lecture slides
- ▶ seminar questions
- ▶ programming assignments.

The **teaching staff** will make their best to participate in the discussions, but **students** are strongly encouraged to:

- ▶ participating in answering and discussing other students questions.

# Rules of engagement



- ▶ Interactions between students and the teaching staff are encouraged.
- ▶ Interactions between students are encouraged.
- ▶ Student interactions should not be a way for one student to simply be given an answer or complete solution from another student.
  - This will be regarded as cheating.
- ▶ **Student interactions** should be in the **spirit of constructive two sided-discussions** with the purpose of learning and helping others to learn.

The following will be seen as attempts to cheat:

- ▶ Simply asking for complete solutions to seminar questions and/or programming assignments.
- ▶ Simply providing others with complete solutions to seminar questions and/or programming assignments.

# Lecture slides





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Student



Account



Admin



Dashboard



Courses



Calendar



Inbox

Home

Announcements

Examination overview

Timeline

Syllabus

Modules

Assignments

Grades

People

Files

Schedule

Zoom

Studio

Slides for all lectures will be made available in the Files area in Studium at the latest right before each lecture begins.



# Public website with instructions for the **operating systems** programming **assignments**

<https://os-assignments.github.io/v1/>

In Studium you will find links to this website.

Operating systems assignments

Search... X

Supported platforms

- > Prerequisites
- > Fundamental concepts
- > The process concept and IPC
- > Threads and synchronization

Dark (arrow)

Clear History

The logo of Uppsala University, featuring a circular seal with Latin text around the border and a central emblem.

# Operating systems assignments

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Operating systems programming assignments for the OS (1DT044), OSPP (1DT096) and DSP (1DT003) courses at the Department of information technology, Uppsala university.

The website can be viewed in dark mode ...

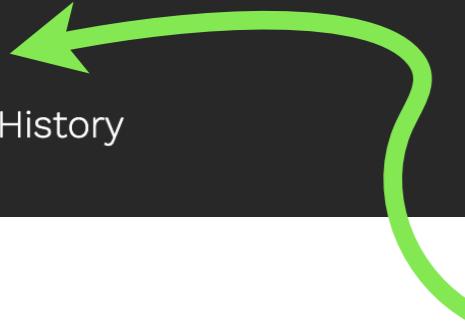
Operating systems assignments

Search...

Supported platforms

- › Prerequisites
- › Fundamental concepts
- › The process concept and IPC
- › Threads and synchronization

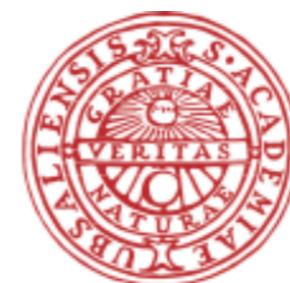
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Light 

Clear History

|  |  |  | < | >

# Operating systems assignments

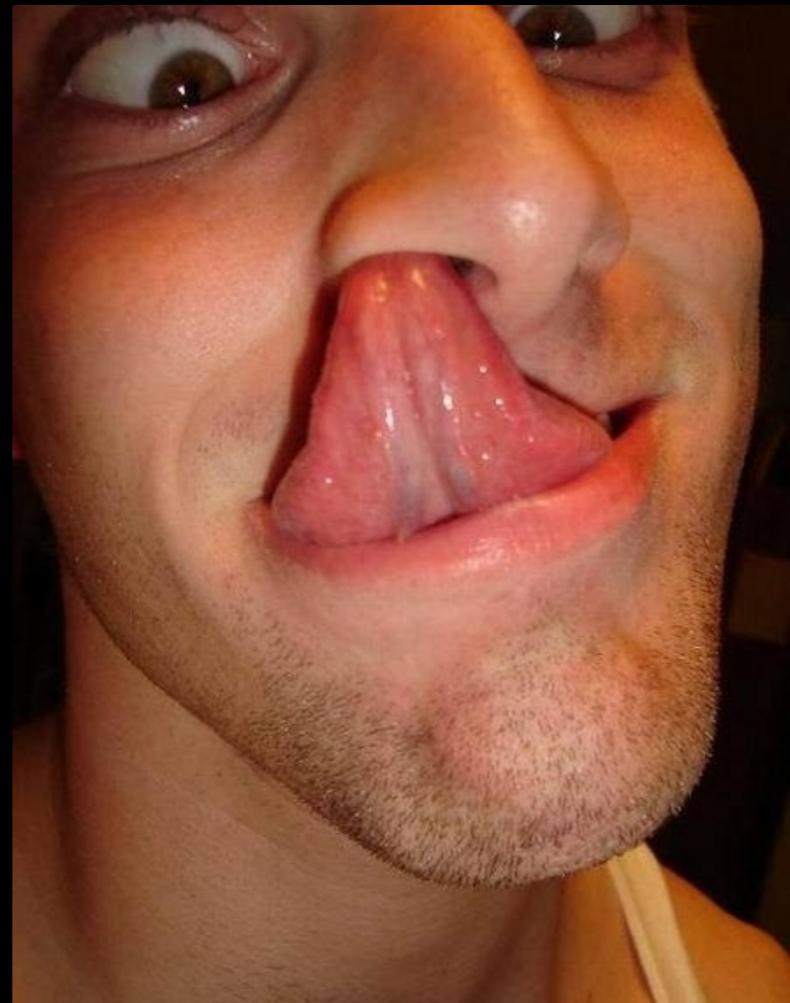


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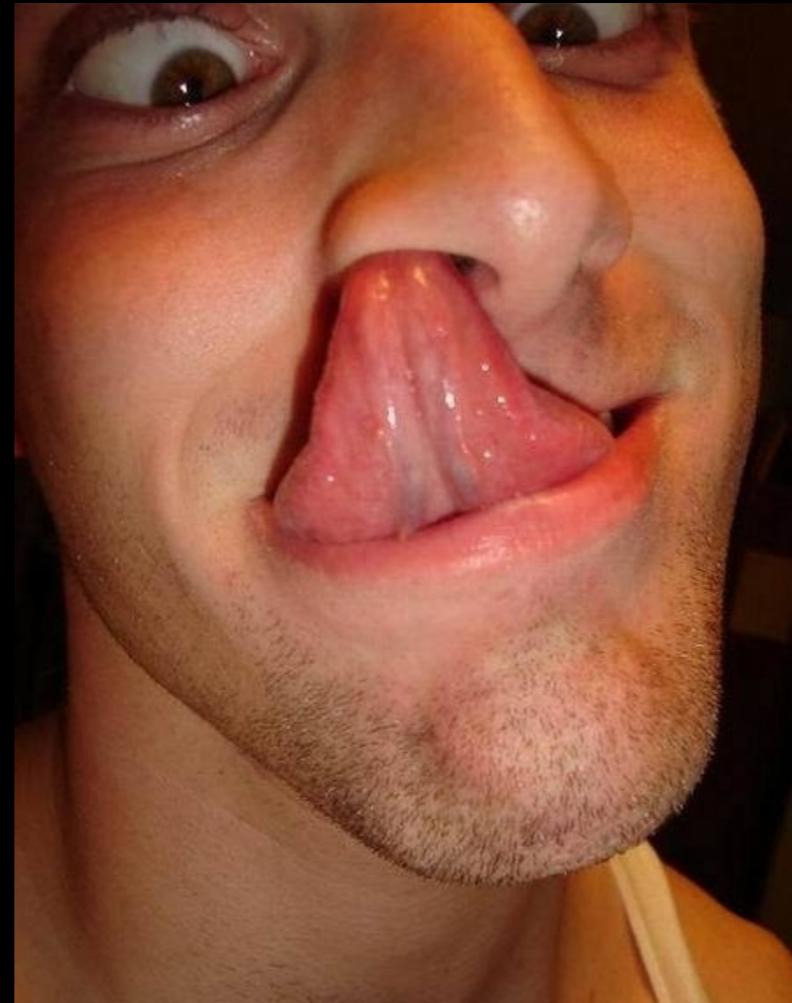
Operating systems programming assignments for the OS ([1DT044](#)), OSPP ([1DT096](#)) and DSP ([1DT003](#)) courses at the [Department of information technology, Uppsala university](#).

... or in Light mode.

# What are you really good at?



# How did you become good at this?



# Pedagogical foundation

My view on learning and why the course  
is structured the way it is.

These are some of my observations and  
conclusions based on my experience as  
a former student, a teacher and lifelong  
learner.



CHALLENGE

INCENTIVE



DEVELOPMENT



GOAL

# MOTIVATION



POWER



SUPPORT



DETERMINATION



OPPORTUNITY

What do you hope to  
learn from this  
course?

# Making connections



- ▶ A good way to learn new things is to connect it to things you already know.
- ▶ The more relations you can build between the new thing and things you already know the better.
- ▶ Some of the connections may initially be vague or simply wrong.
- ▶ But, learning is a repetitive process as is the maintenance of the connections.
- ▶ Over time the good connections will be reinforced and the bad ones will weaken and disappear.

# How to become a self-directed learner

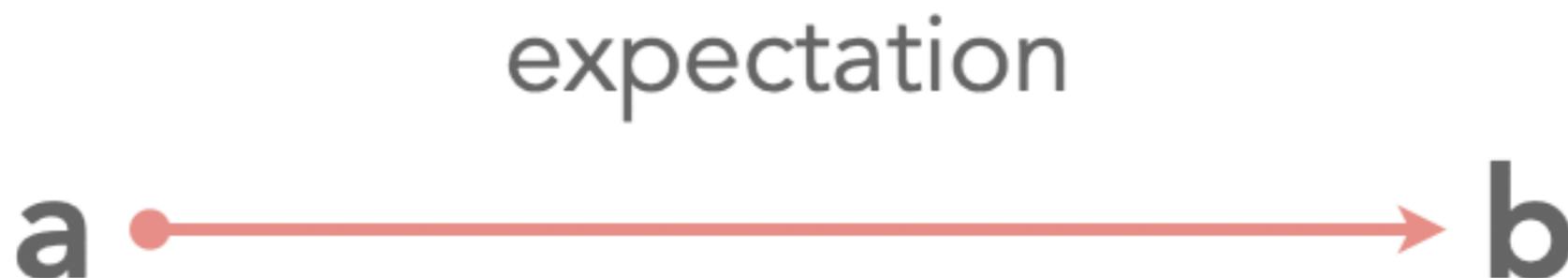


- ▶ Don't rely on others giving you all the answers.
  - ▶ Don't focus on learning facts by heart.
  - ▶ Focus on making **logical conclusion** and making **connections** between old and new information.
  - ▶ Make it a habit to never give up, thinking I don't know, I have no idea etc.
- 
- ▶ Faced with a problem or a question, do your best to make **hypotheses** and try to **evaluate** these hypotheses based on what you already think you know and understand.
  - ▶ The goal is not to be 100 % correct all the times, the goal is to exercise your mind. Also, there might not be a single "correct" answer or solution, there may be many.

# The curious child



# Your learning process

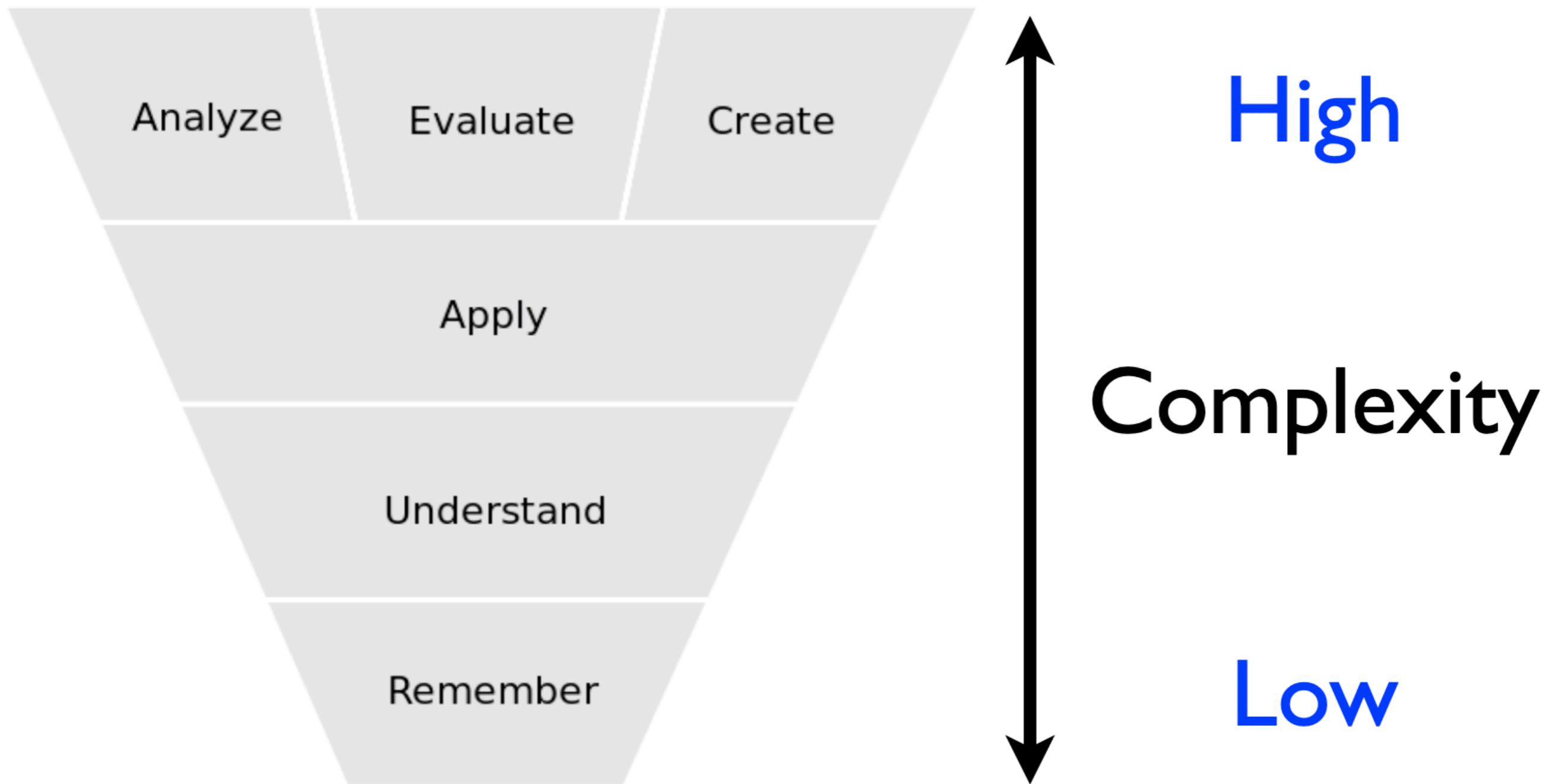


reality

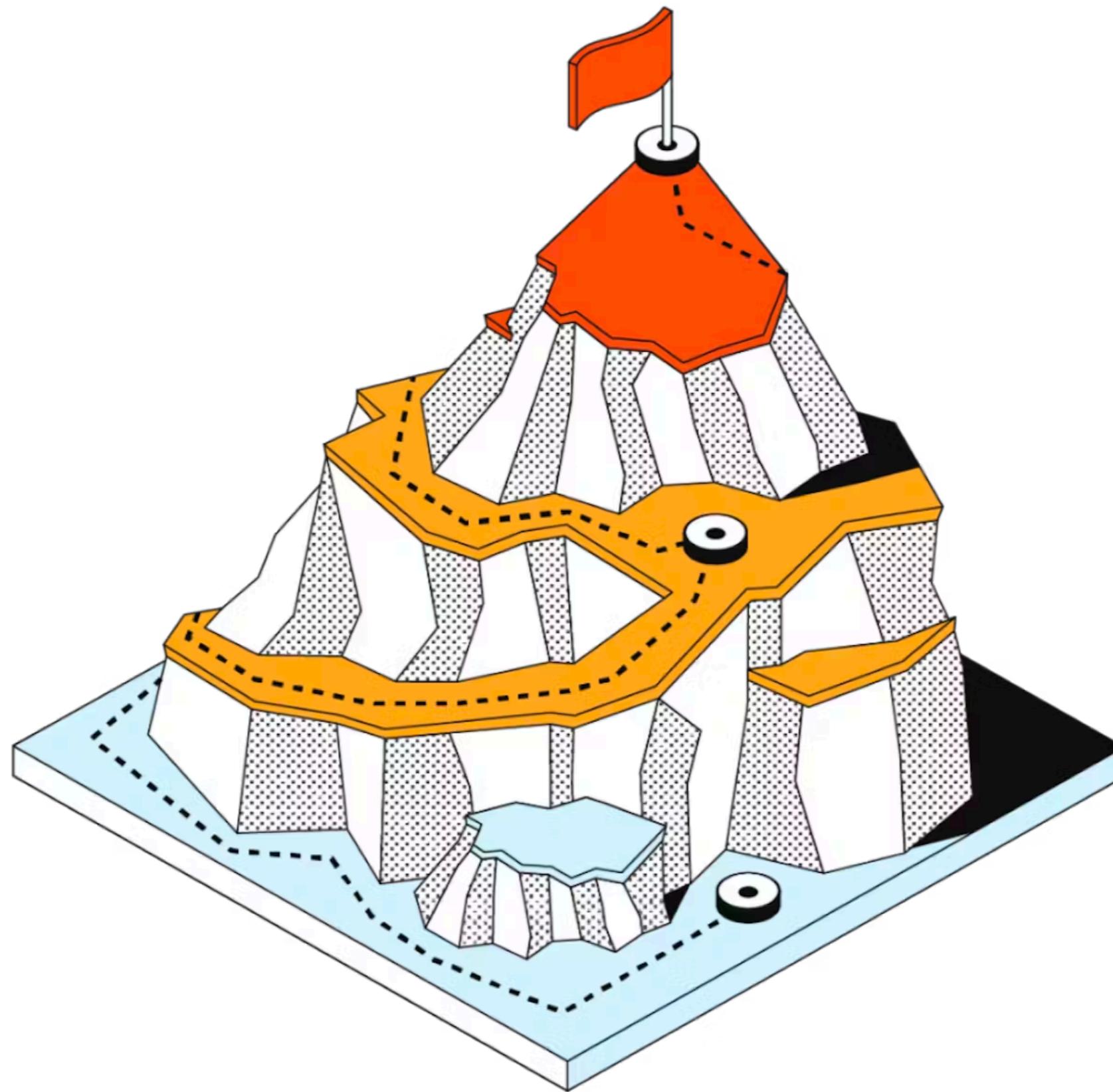


process

# The cognitive domain



# Top-Down and Bottom-Up



# Top-Down



# Bottom-up

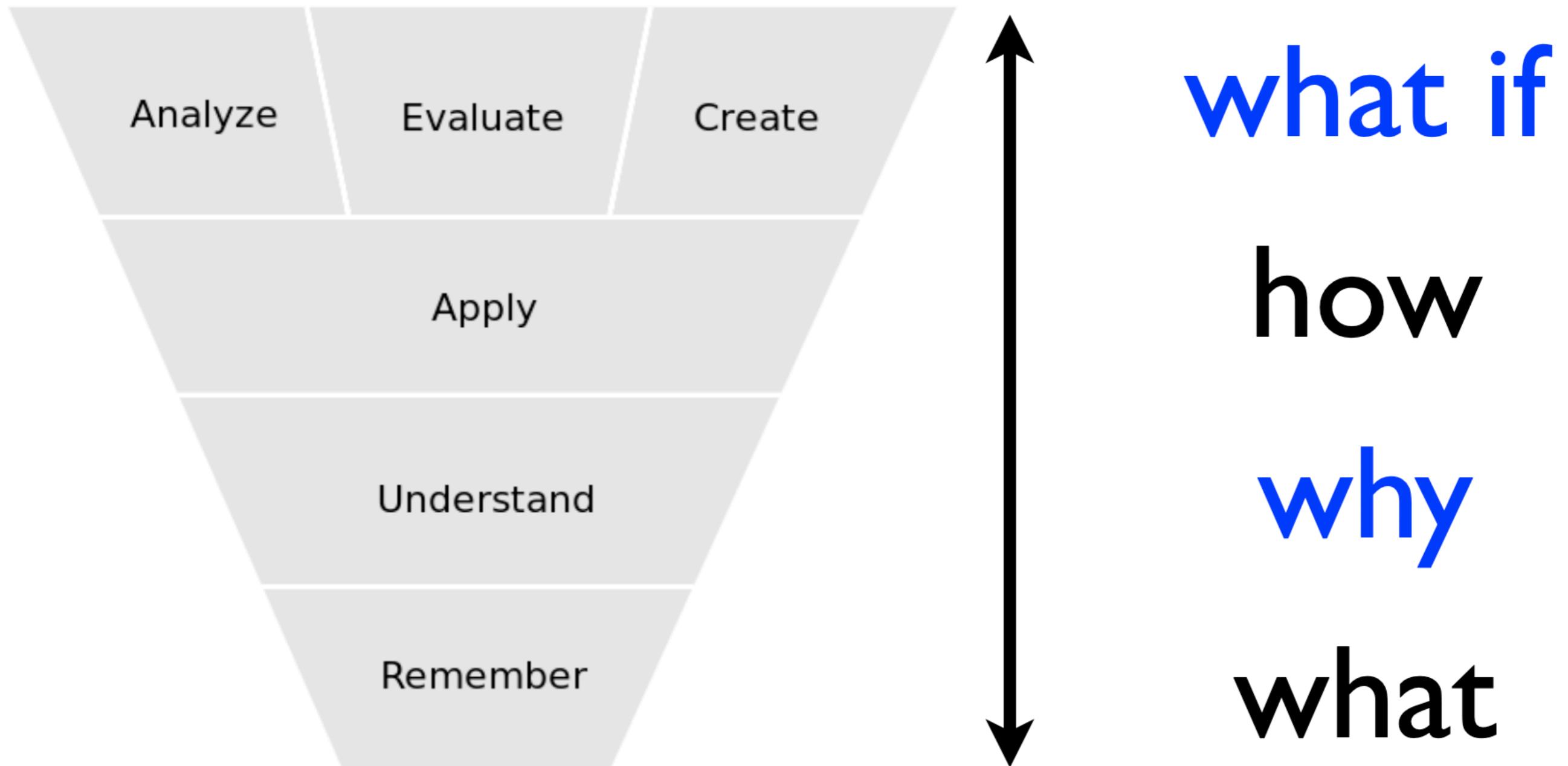


# Language, discussions and learning



- ▶ A huge part of our thinking is related to our language.
- ▶ During the course you will develop your thinking and logical reasoning skills by discussing with other students and the teaching staff during workshops and seminars.

# The cognitive domain



# Efficiency of learning activities

As a rough estimate the following conclusions can be made regarding how much you remember after a learning activities.



20 % after **listening**



30 % after **reading**



70 % after **talking**



90 % after **doing**

This tells us that listening to lectures and reading on your own may not be the most efficient way to learn ...



# Workshops

During the course, you are given many opportunities to develop your learning by discussing with other students and the teaching staff.

The workshops are designed to be the main vehicle for developing your thinking and deep learning skills.

During a workshop, groups of six students meet to discuss questions with each other and the teaching staff. The very same questions will later be the topic for a mandatory examination seminar.

# Modules

Both the OSPP and the DSP courses are organised in modules.

# OSPP (IDT096)

Module	Description	Programming
0	Course overview and preparations.	
1	Fundamental concepts.	<b>MIPS assembly</b>
2	The process concept and inter process communication. File descriptors, standard streams, and I/O redirection.	<b>C</b>
3	CPU Scheduling.	
4	Threads, synchronization and deadlock.	<b>C</b>
5	Memory management, files and file systems.	
6	Written exam and exam preparations.	
7	Concurrency models.	<b>Erlang</b>
8	Group project.	Any language(s) you want

# OSPP (1DT096)

## Examination overview

OSPP Spring 2026

Period 3

4					5					6					7					8					9					10					11					12				
M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F					
M0	D																																											
M1	S	C	Sr	Crh																																		Sr						
M2	S	C																																			Sr							
M3																																					Sr							
M4	S	C	Sr	Crh																																Sr								
M5																																					Sr							
M6	E																																											

S Seminar

C Code grading

P Case study presentation

E Final written exam

D Deadline

Sr Retake seminar

Crh Retake and higher grade code grading

Pr Retake case study presentation

Er Retake exam

Once the period 4 schedule is available the examination overview will be extended with Module 7 and Module 8.

# OSPP (1DT096)

<b>Period</b>	<b>Arbetsvecka (timmars)</b>	<b>Studietakt (%)</b>	<b>Timmar per vecka</b>
3	40	33	14
4	40	66	27

# OSPP (1DT096) timeline

TimeEdit			OSPP (1DT096)		KandDv2		DPS (hours)	Room(s) or Zoom	M	Description	Examination activities in red									
P	W	D	Date	Start	End	Activity					M0	M1	M2	M3	M4	M5	M6	M7	M8	
<b>Week 4 (1)</b>																				
3	4	Mo	2026-01-19	13:15	15:00	Lecture	2	101195 (Heinz-Otto Kreiss)	0	Course overview and preparations	L									
3	4	Tu	2026-01-20	10:15	12:00	Workshop	2	<a href="#">11134 (Hus 1)</a>	0	Prerequisites	W									
3	4	We	2026-01-21	13:15	15:00	Lecture	2	101195 (Heinz-Otto Kreiss)	1	Fundamental concepts		L								
3	4	Th	2026-01-22	13:15	15:00	Workshop	2	<a href="#">11137 (Hus 1)</a>	1	Fundamental concepts		W								
3	4	Th	2026-01-22		15:00				0	<a href="#">Sign up for a pair</a>	D									
3	4	Fr	2026-01-23	13:15	15:00	Tutoring	2	10K1203	1	Fundamental concepts (T)	T									
Total students hours							10													
Self study hours							4													
<b>Week 5 (2)</b>																				
3	5	Mo	2026-01-26	08:15	10:00	Workshop	2	<a href="#">11134 (Hus 1)</a>	1	Fundamental concepts	W									
3	5	Mo	2026-01-26	15:15	17:00	Tutoring	2	<a href="#">4102 (Hus 1)</a>	1	Fundamental concepts (T)	T									
3	5	Tu	2026-01-27	10:15	12:00	Seminar	1	TBA	1	Fundamental concepts	S									
3	5	Tu	2026-01-27	15:15	17:00	Lecture	2	101195 (Heinz-Otto Kreiss)	2	The process concept		L								
3	5	We	2026-01-28																	
3	5	Th	2026-01-29																	
3	5	Fr	2026-01-30	09:15	12:00	Presentation	0.5	Zoom	1	Fundamental concepts	C									
3	5	Fr	2026-01-30	13:15	15:00															
Total students hours							7.5													
Self study hours							6.5													
<b>Week 6 (3)</b>																				
3	6	Mo	2026-02-02	10:15	12:00	Workshop	2	<a href="#">11134 (Hus 1)</a>	2	The process concept		W								
3	6	Mo	2026-02-02	15:15	17:00	Tutoring		10K1203 10K1205 10K1206	2	Fundamental concepts (Tr)	Tr									
3	6	Th	2026-02-03	10:15	12:00	Tutoring	2	4102 (Hus 4) 4103 (Hus 4)	2	The process concept (T)		T								
3	6	Tu	2026-02-03	13:15	15:00	Seminar		TBA	1	Fundamental concepts (Sr)	Sr									
3	6	We	2026-02-04	13:15	15:00	Lecture	2	101195 (Heinz-Otto Kreiss)	3	CPU scheduling		L								
3	6	Th	2026-02-05	13:15	17:00	Presentation	0.5	Zoom	1	Fundamental concepts (Crh)	Crh									
3	6	Fr	2026-02-06	09:15	12:00	Seminar	1	TBA	2	The process concept	S									
Total students hours							7.5													
Self study hours							6.5													

DPS = Duration Per Student

# Grading

# Final grade for OSPP (1DT096)

Ladok module code			Hp	Grading scale
Nr	Name	Symbol		
1000	Theory (part 1)	T <sub>1</sub>	2	Fail/Pass
2000	Assignments (part 1)	A <sub>1</sub>	2	Fail, 3, 4, 5
3000	Written exam (part 1)	E	1	Fail, 3, 4, 5
4000	Theory (part 2)	T <sub>2</sub>	1	Fail/Pass
5000	Assignments (part 2)	A <sub>2</sub>	1	Fail, 3, 4, 5
6000	Project (group)	P <sub>g</sub>	2	Fail, 3, 4, 5
7000	Project (individual)	P <sub>i</sub>	5	Fail, 3, 4, 5
0400	Project report	P <sub>r</sub>	1	Fail/Pass

The final grade for the course is computed as a weighted average of the Ladok module codes graded with 3, 4 and 5, i.e., the final grade is computed by rounding the weighted average of the assignments (A<sub>1</sub> and A<sub>2</sub>), the written exam (E) and the project (P<sub>i</sub> and P<sub>g</sub>).

The number of credits for each Ladok module are used as weights when calculating the weighted average according to the formula below.

$$Final\ Grade = \left[ \frac{2A_1 + E + A_2 + 5P_i + 2P_g}{11} \right]$$

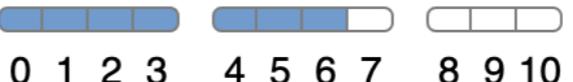
# Assignments (part 1) higher grade points

For the Ladok module 2000, Assignments (part 1), in addition to the mandatory assignments you can earn higher grade points by solving a number of higher grade assignments.

In **total** there are **10** higher grade **points**.

- For **grade 4** you must score at least **4 points**.
- For **grade 5** you must score at least **8 points**.

# Final grade calculator in Studium for OSPP (1DT096)

Code	Ladok module	Grade	Points	Weight (credits)	Weighted grade
2000	Assignments (part 1)	4 (6 of 10 points)	<div style="display: flex; justify-content: space-around;"> <span>Three</span> <span>Four</span> <span>Five</span> </div>  0 1 2 3    4 5 6 7    8 9 10	2	8
	Fundamental concepts	<span>F</span> <span>P</span>	<span>0</span> <span>1</span> <span>2</span> <span>3</span>		
	The process concept	<span>F</span> <span>P</span>	<span>0</span> <span>1</span> <span>2</span> <span>3</span>		
	Threads, synchronization and deadlock	<span>F</span> <span>P</span>	<span>0</span> <span>1</span> <span>2</span> <span>3</span> <span>4</span>		
3000	Written exam (part 1)	<span>F</span> <span>3</span> <span>4</span> <span>5</span>		1	4
5000	Assignments (part 2)	<span>F</span> <span>3</span> <span>4</span> <span>5</span>		1	3
6000	Project (group)	<span>F</span> <span>3</span> <span>4</span> <span>5</span>		2	8
7000	Project (individual)	<span>F</span> <span>3</span> <span>4</span> <span>5</span>		5	20
				Sum	11
					43

Final grade 4 ( $43 / 11 \approx 3.91$ )

# Final grade calculator in Studium for DSP (1DT003)

Symbol	Code	Ladok module	Grade	Points	Weight (credits)	Weighted grade									
T	1010	Written exam	<table border="1"><tr><td>F</td><td>3</td><td>4</td><td>5</td></tr></table>	F	3	4	5		2	8					
F	3	4	5												
A	2010	Assignments	4 (6 of 10 points)	<table border="1"> <tr><td>Three</td><td>Four</td><td>Five</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td>0 1 2 3</td><td>4 5 6 7</td><td>8 9 10</td></tr> </table>	Three	Four	Five				0 1 2 3	4 5 6 7	8 9 10	5	20
Three	Four	Five													
0 1 2 3	4 5 6 7	8 9 10													
		Fundamental concepts	<table border="1"><tr><td>F</td><td>P</td></tr></table>	F	P	<table border="1"><tr><td>0</td><td>1</td><td>2</td><td>3</td></tr></table>	0	1	2	3					
F	P														
0	1	2	3												
		The process concept	<table border="1"><tr><td>F</td><td>P</td></tr></table>	F	P	<table border="1"><tr><td>0</td><td>1</td><td>2</td><td>3</td></tr></table>	0	1	2	3					
F	P														
0	1	2	3												
		Threads, synchronization and deadlock	<table border="1"><tr><td>F</td><td>P</td></tr></table>	F	P	<table border="1"><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr></table>	0	1	2	3	4				
F	P														
0	1	2	3	4											
P <sub>i</sub>	3010	Project (individual)	<table border="1"><tr><td>F</td><td>3</td><td>4</td><td>5</td></tr></table>	F	3	4	5		5	20					
F	3	4	5												
P <sub>g</sub>	3020	Project (group)	<table border="1"><tr><td>F</td><td>3</td><td>4</td><td>5</td></tr></table>	F	3	4	5		2	6					
F	3	4	5												
					<b>Sum</b>	14									
						54									

Final grade 4 (54 / 14 ≈ 3.86)

# Module 0

Prequisites

# Operating systems assignments

 Search... 

## Supported platforms

### ▼ Prerequisites

The shell and the terminal

The department Linux  
system

Working in the terminal

Git and GitHub

➤ Mips and Mars

➤ C programming

# Formalities

# Är du antagen och registrerad?

<https://www.uu.se/student/antagnings-och-registrering/registrera-dig>

Du måste vara antagen och registrerad  
för att kunna följa kursen.

# Sign up for final written exam

- You must sign up for the final written exam in **Ladok**.
- The exam signing-up system will not open until **2 weeks after the course start**.
- The exam signing-up system closes **12 days before the exam** date.

# Collisions with other exams

These are the "rules and regulations" (as far as I know) for clashing exams at the department of Information technology at Uppsala university.

- Compulsory course exams should not clash.

If you have a collision with other exams you have made your own choice to step outside the collision-free track.

- You should not take two or more exams at the same time.
- If the exams are traditional hall exams (paper or e-exam) you will not be allowed to take more than one exam at the time.
- In case of online home e-exams there is currently no way for the university to prohibit you from taking more than one online e-exam at the same time.
- No extra time is given if you have collisions with other exams.
- If you have a clashing exam you may have to take the retake exam.

# Drop the course?

- Students who quit a course, must inform the Student Office (IT-Kansliet): [it-kansli@it.uu.se](mailto:it-kansli@it.uu.se) or de-register yourself from [student.ladok.se](http://student.ladok.se).
- If less than 3 weeks have passed since the course started, the course registration will be removed.
- After 3 weeks a "course intermission" will be reported to Ladok instead.

**what's  
next?**

# Arbete i par och basgrupp

Under kursens första halva (period 3) kommer ni arbeta med programmeringsuppgifter i par om två studenter.



Tre par kommer sedan att sättas samman till en basgrupp med 6 studenter.

En bärande del av kursen sker sedan genom basgruppens diskussioner av instuderingsfrågor under workshops. Dessa frågor redovisas sedan under seminarier.

# Sign up for a pair

Two students can agree to create a pair or you can choose to be put in a pool of students from which pairs will be created randomly.

**OSPP deadline:** You must sign up to a pair no later than Thursday January 22, 15:00.

# OSPP (1 DT096)



UPPSALA  
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Student



Account



Dashboard



Courses

VT2026

Home

Timeline

Modules

Syllabus

Announcements

People

Assignments

Grades

## ▼ Module 0 - Course overview and preparations

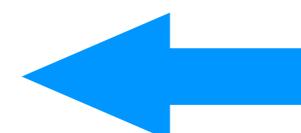
**Module 0 - Course overview and preparations**

[M0] Course overview and preparations

[M0] Workshop

[M0] Sign up for a code grading pair

22 Jan



# OSPP M0 - Prerequisites workshop

The screenshot shows the Uppsala University LMS interface for the course VT2026. The left sidebar includes links for Home, Timeline, Modules (which is selected), Syllabus, Announcements, People, Assignments, and Grades. A large blue arrow points from the text "During this workshop you will recap the following topics" to the "[M0] Workshop" link in the course structure.

VT2026

UPPSALA  
UNIVERSITET

Home

Timeline

Modules

Syllabus

Announcements

People

Assignments

Grades

▼ Module 0 - Course overview and preparations

Module 0 - Course overview and preparations

[M0] Course overview and preparations

[M0] Workshop

[M0] Sign up for a code grading pair  
22 Jan

A large blue arrow points from the text below to the "[M0] Workshop" link.

During this workshop you will recap the following topics

- Decimal, binary and hexadecimal numbers
- Computer architecture
- Assembly language
- Data types
- Time complexity
- Data structures
- C programming

# OSPP (1DT096) timeline

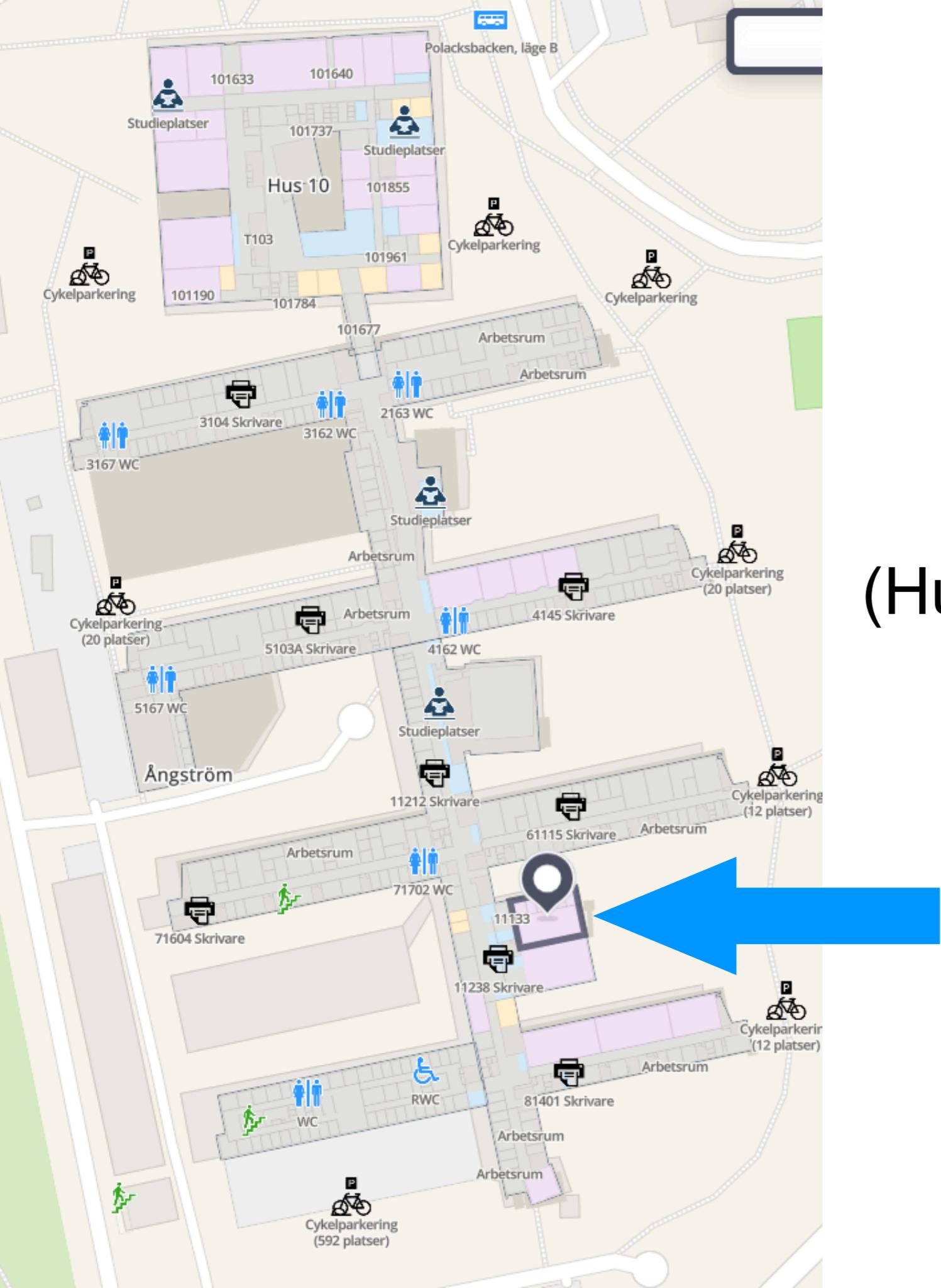
TimeEdit			OSPP (1DT096)			KandDv2		DPS (hours)	Room(s) or Zoom	M	Description	Examination activities in red									
P	W	D	Date	Start	End	Activity	M					M0	M1	M2	M3	M4	M5	M6	M7	M8	
<b>Week 4 (1)</b>																					
3	4	Mo	2026-01-19	13:15	15:00	Lecture	2	101195 (Heinz-Otto Kreiss)	0	Course overview and preparations		L									
3	4	Tu	2026-01-20	10:15	12:00	Workshop	2	<a href="#">11134 (Hus 1)</a>	0	Prerequisites		W									
3	4	We	2026-01-21	13:15	15:00	Lecture	2	101195 (Heinz-Otto Kreiss)	1	Fundamental concepts		L									
3	4	Th	2026-01-22	13:15	15:00	Workshop	2	<a href="#">11137 (Hus 1)</a>	1	Fundamental concepts		W									
3	4	Th	2026-01-22		15:00				0	<a href="#">Sign up for a pair</a>		D									
3	4	Fr	2026-01-23	13:15	15:00	Tutoring	2	10K1203	1	Fundamental concepts (T)		T									
Total students hours						10															
Self study hours						4															
<b>Week 5 (2)</b>																					
3	5	Mo	2026-01-26	08:15	10:00	Workshop	2	<a href="#">11134 (Hus 1)</a>	1	Fundamental concepts		W									
3	5	Mo	2026-01-26	15:15	17:00	Tutoring	2	<a href="#">4102 (Hus 1)</a>	1	Fundamental concepts (T)		T									
3	5	Tu	2026-01-27	10:15	12:00	Seminar	1	TBA	1	Fundamental concepts		S									
3	5	Tu	2026-01-27	15:15	17:00	Lecture	2	101195 (Heinz-Otto Kreiss)	2	The process concept		L									
3	5	We	2026-01-28																		
3	5	Th	2026-01-29																		
3	5	Fr	2026-01-30	09:15	12:00	Presentation	0.5	Zoom	1	Fundamental concepts		C									
3	5	Fr	2026-01-30	13:15	15:00																
Total students hours						7.5															
Self study hours						6.5															
<b>Week 6 (3)</b>																					
3	6	Mo	2026-02-02	10:15	12:00	Workshop	2	<a href="#">11134 (Hus 1)</a>	2	The process concept			W								
3	6	Mo	2026-02-02	15:15	17:00	Tutoring		10K1203 10K1205 10K1206	2	Fundamental concepts (Tr)		Tr									
3	6	Th	2026-02-03	10:15	12:00	Tutoring	2	4102 (Hus 4) 4103 (Hus 4)	2	The process concept (T)			T								
3	6	Tu	2026-02-03	13:15	15:00	Seminar		TBA	1	Fundamental concepts (Sr)		Sr									
3	6	We	2026-02-04	13:15	15:00	Lecture	2	101195 (Heinz-Otto Kreiss)	3	CPU scheduling			L								
3	6	Th	2026-02-05	13:15	17:00	Presentation	0.5	Zoom	1	Fundamental concepts (Crh)		Crh									
3	6	Fr	2026-02-06	09:15	12:00	Seminar	1	TBA	2	The process concept		S									
Total students hours						7.5															
Self study hours						6.5															

DPS = Duration Per Student

# DSP (1DT003) timeline

M0 Workshop i morgon, tisdag 20/1 kl 13:15 - 15:00.

Datorsystem med projekt (1DT003) vt26						Tidslinje										Examinerande moment är rödmarkerade i tidslinjen	
W	Dag	Datum	Start	Slut	Plats	0	1	2	3	4	5	6	7	8	9	Anledning	Beskrivning
4	Mån	2026-01-19	13:15	15:00	101195	L										Föreläsning	[M0] Course overview and preparations
4	Tis	2026-01-20	13:15	15:00	11134	W	←									Workshop	[M0] Prerequisites
4	Ons	2026-01-21	13:15	15:00	101195	L										Föreläsning	[M1] Fundamental concepts
4	Tors	2026-01-22	10:15	12:00	11134	W										Workshop	[M1] Fundamental concepts
4	Tors	2026-01-22	13:15	15:00	6K1107	T										Handledning	[M0] Networking assignment (T)
					10K1201, 10K1205,												
4	Fre	2026-01-23	13:15	15:00	10K1206	T										Handledning	[M1] Fundamental concepts (T)
5	Mån	2026-01-26	08:00	08:15		H										Deadline	[M0] Networking assignment (inlämning)
5	Mån	2026-01-26	13:15	15:00	90103, 90104	W										Workshop	[M1] Fundamental concepts
5	Mån	2026-01-26	15:15	17:00	4001	L										Föreläsning	[M1] Reliable communication
					10K1201, 10K1205,												
5	Tis	2026-01-27	10:15	12:00	10K1206	T										Handledning	[M1] Fundamental concepts (T)
5	Tis	2026-01-27	15:15	17:00	101195	L										Föreläsning	[M2] The process concept
					Se filken												
5	Ons	2026-01-28	13:15	16:00	"Seminarier"	S										Seminarium	[M1] Fundamental concepts
5	Tors	2026-01-29	09:15	12:00	80101	L										Föreläsning	[M2] Communicating applications
5	Tors	2026-01-29	15:15	17:00	11137	W										Workshop	[M2] The process concept
5	Fre	2026-01-30	09:15	16:00	Via Zoom	C										Redovisning	[M1] Fundamental concepts



# M0 Workshop Tomorrow

**Tuesday 20/1**

**Room 11134**

**(Hus 1, Våning 1, Rum 134)**

**OSPP**

**10:15 - 12:00**

**DSP**

**13:15 - 15:00**