

Seminar 2: Software and systems

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Outline

- 1 Introduction
- 2 TimeEdit
- 3 Lisam
- 4 Teams
- 5 Zoom
- 6 R

About the course

- Information at course homepage:
 - ▶ <https://www.ida.liu.se/~732A60/info/courseinfo.en.shtml>
- **Seminars are mandatory to attend**
- Project work:
 - ▶ Mandatory, includes a workshop session
 - ▶ Information at seminar 8
- Seminar 6: Library session
 - ▶ Read before seminar:
<https://sway.office.com/YleNtHxuq1QJDab3?ref=Link>

Software and Systems at Liu

General

- Lisam, TimeEdit, Teams, Zoom, ...
- Liunet students
- IT services at Liu
- Remote login
- LiU-ID, LiU-card
- Admission/Registration

Specific

- R, Rstudio, ...

TimeEdit

- Timetable for courses etc
- <https://cloud.timeedit.net/liu/web/schema/>
 - ▶ choose English or Swedish
- Search for:
 - ▶ Courses
 - ▶ Rooms
 - ▶ Teacher, student groups, teaching activity
- When you have a schedule:
 - ▶ Subscribe to other calendar apps
 - ▶ Download
- Maps: [link](#), [link](#)
 - ▶ try to find: SU10, A2, S10, KEY1

What is LISAM?

- learning platform
- Email, calendar, OneDrive, Office online, and more...
- **Course room** → one for each course
- <http://lisam.liu.se>
- More information: [link](#)

Lisam: Course room

- Information
- Course material (lectures, labs, documents, useful links...)
- Assignments and submitting solutions to assignments
- Groups, quizzes
- Communication
- Collaboration, sharing files

Lisam: Course room

The screenshot shows a web browser window displaying the Lisam SharePoint site. The browser's address bar shows the URL `liuonline.sharepoint.com/sites/Lisam/SitePages/en/Home.aspx`. The site's top navigation bar includes the 'liu' logo, 'SharePoint', and a search bar. Below this, a secondary navigation bar features the 'Lisam' logo and links for 'Home', 'Courses and programs', and 'Lisam news'. The main content area is titled 'Welcome to Lisam's new start page' and includes a feedback prompt. It is divided into three sections: 'Courses and programs', 'Links', and 'Q&A'. The 'Courses and programs' section lists nine courses with their IDs, titles, and campus locations, each accompanied by a folder icon. The 'Links' section contains three boxes with arrows pointing to 'Student portal', 'Student web', and 'Intranet for employees'. The 'Q&A' section has one box with an arrow pointing to 'Lisam support'. A 'Show all' link is present at the bottom of the 'Courses and programs' list.

liuonline.sharepoint.com/sites/Lisam/SitePages/en/Home.aspx

liu SharePoint Search this site

Home

LISAM Lisam Home Courses and programs Lisam news English

Welcome to Lisam's new start page

Feel free to tell us what you think through the feedback function at the bottom of the start page.

Courses and programs

Show all

F7KSA - Bachelor's Programme in Statistics and Data Analysis	
732A60 - Advanced Academic Studies HT21, Campus Valla	
732A98 - Visualization HT21, Campus Valla	
732A64 - Master Thesis in Statistics VT21, Campus Valla	
732A74 - Introduction to Python VT21, Campus Valla	
732A78 - Deep Learning VT21, Campus Valla	
732A60 - Advanced Academic Studies HT20, Campus Valla	
732A64 - Masteruppsats i statistik HT20, Campus Valla	
732A68 - Introduction to Machine Learning HT20, Campus Valla, 70 joined course	
732A76 - Research Project HT20, Campus Valla	

Show all

Links

- Student portal
Exam registration, certificate, etc.
- Student web
Information and news for students
- Intranet for employees
Information and news for employees

Q&A

- Lisam support
Inspiration room, manuals and contact

https://liuonline.sharepoint.com/sites/Lisam Show all

Lisam: Demo

Log in as a student

- News feed: you find comments from people and courses you have chosen to follow
- About me (edit the profile)
- Courses and Programs: See all courses that you registered yourself for.
- LISAM support
- Dots in left upper corner → apps

Course room

- Course plan: compressed information about the course, teaching, examination and admission requirements
- Course documents: basic course material → lectures, files (uploaded by teacher)
- Members and groups
- Collaborative workspace: teachers and students can publish files there and make comments
- Schedule: link to schedule
- Submissions: Here you may find your labs/assignments and submit the answer
- Assessment record: The overview of your grades

Teams

Installation link: [Microsoft Teams](#)

- Software for collaboration and communication
- Chat, voice and video meetings, file sharing
- Team
 - ▶ collaboration space
 - ▶ uses channels for different topics
- Used in some courses
 - ▶ can be connected to course rooms on Lisam
- Students can use it for labs and projects
 - ▶ Make sure to make it private if you are using it for mandatory assignments, to avoid plagiarism

Zoom

- Software for video meeting
- Distance learning
- Software at LiU: go to "Online meetings"

Statistical and ML software

- Free of charge
 - ▶ R
 - ▶ Python, Julia
 - ▶ Stan, WinBugs, JAGS
 - ▶ Apache Spark
- Commercial
 - ▶ SAS
 - ▶ Minitab
 - ▶ SPSS
 - ▶ Matlab
 - ▶ Microsoft SQL Server

R programming language

- Scope: data handling, visualization, statistics, machine learning, scientific computing
- Open source and free
- High level Interpreted language
- Popular within statistics and machine learning
- Functional and object oriented language
- CRAN: [The Comprehensive R Archive Network](#)

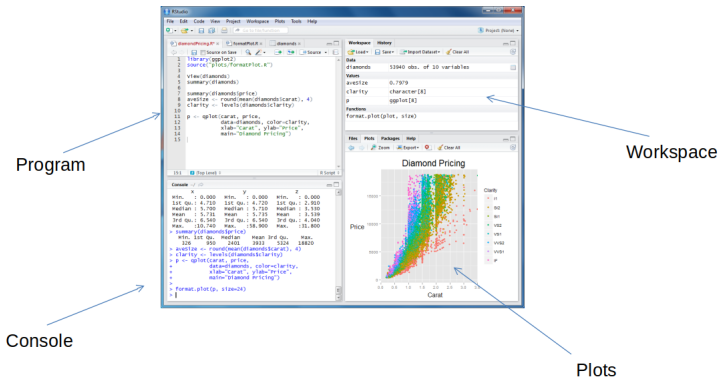
R

Installation

- See [CRAN](#) (Windows, Mac, Linux)

Rstudio

- Recommended IDE for R
- Download: [here](#)
 - ▶ choose Rstudio Desktop Open source Edition



R demo

See R-file here.

R-packages

- CRAN
 - ▶ 19 771 packages (as of 2023-08-21)
 - ▶ varying quality and documentation
- Github, [examples](#)
- Bioconductor

R-packages

Some examples

- Data handling:
 - ▶ Tidyverse
 - ▶ dplyr, tidyr
- Visualization → [732A98 Visualization](#)
 - ▶ ggplot2, ggmap
 - ▶ plotly, shiny
- Data:
 - ▶ readr, lubridate, stringr, pxweb
- Modeling
 - ▶ caret, glmnet, e1071, xgboost, tensorflow, torch, tidymodels
- Longer list of good [packages](#)
- [Cran task views](#): example [Machine Learning & Statistical Learning](#)

More R

Course: 732A94 Advanced Programming in R

Some links:

- [R for Data Science](#)
- [Advanced R](#)
- [R packages](#)
- [Some free e-books about R](#)

Computer labs

Computer rooms

- SU-rooms (B-Hus): Ubuntu
 - ▶ Open terminal with: `Ctrl + Alt + T`
 - ▶ Load course module:
 - ★ Write module `add courses/732A94` and then press enter
 - ▶ Load R+Rstudio+packages:
 - ★ Write module `add prog/r-mega-edition/21.10` and then press enter
 - ▶ After loading a module: write `rstudio` in terminal and press enter
- PC-rooms: Windows
- Free to use when not booked
- Can be used remotely, contact helpdesk@ida.liu.se.