

SIF40AL Funksjonelle materialer H2002

Nedanfor er det vist korleis faget SIF40AL Funksjonelle materialer vart gitt hausten 2001. (Oppsettet er på engelsk pga deltaking av engelsktalende studentar i fjor. Det treng sjølvsagt ikkje bli slik i år.)

Det blir ein del endringar. Viktigaste prisipp for gjennomføringa H2002 er:

-Halvleiarfysikk, magnetisme og superleiar blir forelese i staden for at studentane skriv grupperapportar om desse tema.

-Til gjengjeld blir krava til individuell rapport utvida. Dvs det krevst større innsats i dybden, og større rapport. I fjor ca 15-20 sider, i år 30-40 sider. To studentar kan samarbeide om rapporten. Valg av tema er omtrent fritt, men må godkjennast av faglærar. Faglærar står til disposisjon med råd undervegs.

-Boka av Ball: "Made to measure" blir berre brukt til sjølvstudium.

-Det blir gitt eksamen både i det forelesne stoffet, og frå boka av Ball, og spørsmål frå rapportane.

NTNU 15.05.02

K Fossheim

Her er fjorårets opplegg:

H 2001: SIF40AL Functional materials. COURSE PLAN

Professor Kristian Fossheim

Adjustments may become necessary, depending on the final number of students

Curriculum/Topics	
P. Ball: Made to measure (1/3 wt.) (minus 100 pages)	1/6 wt. KF (20h)

Assigned topics: Group Reports (1/3 wt.)
-Semiconductor elements & devices
-Magnetic materials & applications
-Superconductivity & applications

Requirements: Written, preferably typed, reports. (Figures may be hand-drawn)

Length: Suitable for presentation in 1x45 min. sessions per student. Number of students per group: 3-4. (Possible guideline: 8-10 pages per student, including figures. But size and number of figures and tables makes this difficult to specify. Use your own judgement). Try to go in some depth in your subject. Remember to keep the *material* in focus. Ask for advice on this matter.

Self-choice topics: Individual Reports (1/3 wt.)

Examples:

- Metals
- Ferroelectrics
- Conducting polymers
- Liquid crystals
- Optical and dielectric materials
- Materials for energy storage
- Semiconductors
- Magnets
- Superconductors
- Piezoelectrics and their application
- A nanomaterial and its use

Requirements: As for group reports. Please present your choice to KF before starting preparations.

In addition some lab tours and invited lectures may be organized

Exam & grading: All reports will be graded by KF and an external examiner. All students in a group will receive the same grade (for the group report). Weights as given above: $1/3+1/3=2/3$ for written reports. Final oral exam December 11 counts $1/3$ weight. Each student brings a piece of paper stating which 100 pages were eliminated from the curriculum in P. Ball.

Notice: Oral exam curriculum: P. Ball minus 100 pages , plus all reports. Each student is given a 20 minutes examination on any subject generated above, *except* for (co)authored reports.

Adjusted plan

NTNU Sept. 6, 2001 K. Fossheim