

Schedule for the lectures of wi4201, 2023-2024

| Lecture | Date | Subject | Pages |
|---------|-----------|-----------------------------------|---------|
| 1 | 7-9 | Introduction | 1-5 |
| 2 | 14-9 | Finite Difference Methods | 6-40 |
| 3 | 21-9 | Finite Difference Methods | 6-40 |
| 4 | 28-9 | Direct methods | 41-61 |
| 5 | 5-10 | Direct methods | 41-61 |
| 6 | 12-10 | Basic Iterative Methods | 62-87 |
| 7 | 19-10 | Basic Iterative Methods | 62-87 |
| 8 | 16-11 | Multi Grid Methods | 88-95 |
| 9 | 23-11 | Multi Grid Methods | 88-95 |
| 10 | 30-11 | Krylov SPD | 96-106 |
| 11 | 7-12 | Preconditioning | 107-116 |
| 12 | 14-12 | Krylov General | 117-128 |
| 13 | 21-12 | Krylov General/Eigenvalue methods | 117-138 |
| 14 | 11-1-2024 | Eigenvalue methods | 129-138 |

Assessment

1. 2.12.4, 3.12.7, 3.12.10, 3.12.16, 4.13.1, 4.13.4, 4.13.7, 5.9.1, 5.9.4 and 5.9.13 should be worked out, deadline 17-11-2023 (Grade: G_1).
2. At 19-10-2023 a take home exam including practical exercises is given. This exam can be done by groups of two students. The report of this exam should be returned to us before or on January 12, 2024 (Grade: G_2).
3. Finally a written exam is organised on Wednesday January 24, 2024 over the lecture notes (Grade: G_3).

The final grade is computed by the formula: $\frac{G_1+G_2+2G_3}{4}$, provided that all Grades are larger than or equal to 5.