

# Syllabus

Modern Simulation Software Development · Summer 2026

## 1 Course Information

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<b>Lecturers</b>	<a href="#">Dr. Lambert Theisen</a> , <a href="#">Dr. Georgii Oblapenko</a>
<b>ECTS</b>	5
<b>Format</b>	2h lecture + 1h tutorial/week (tutorials merged to 2h biweekly)
<b>Examination</b>	Oral exam or project-based evaluation (TBD)
<b>Module</b>	Current Topics in Computational Science and Engineering
<b>Registration</b>	<a href="#">RWTHOnline (course 11.00153)</a> – opens 11 March 2026

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## 2 Background Literature

- D. A. Kopriva (2009). *Implementing Spectral Methods for Partial Differential Equations: Algorithms for Scientists and Engineers*. Springer.
- A. Logg, K. A. Mardal & G. Wells, Eds. (2012). *Automated Solution of Differential Equations by the Finite Element Method: The FEniCS Book*. Springer.
- R. C. Smith (2024). *Uncertainty Quantification: Theory, Implementation, and Applications*. SIAM.
- I. D. Boyd & T. E. Schwartzentruber (2017). *Nonequilibrium Gas Dynamics and Molecular Simulation*. Cambridge University Press.

## 3 Links

- [ACoM Website](#)
- [Course Announcement](#)
- [Moodle Page](#)