



Faculty of Health, Science and Technology  
Mathematics

## Course Reading

### Homogenization: multiscale modeling, analysis and simulation

Valid from 08/31/2026

**Course Code:** MAAD28

**Course Title:** Homogenization: multiscale modeling, analysis and simulation

**Credits:** 7.5

**Degree Level:** Master's level

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#### Reference material

Adrian Muntean (2025). *A Course in Homogenization-Based Techniques: Multiscale Modeling and Asymptotic Analysis*. New Jersey, London, Singapore, ...: World Scientific

#### Books

Adrian Muntean, Vladimir Chalupecky (2011). *Homogenization Method and Multiscale Modeling*. Kyushu, Japan : Kyushu University, Japan [https://catalog.lib.kyushu-u.ac.jp/opac\\_detail\\_md/?lang=0&opkey=B154514576219988&srvc=0&amode=MD100000&bibid=20361](https://catalog.lib.kyushu-u.ac.jp/opac_detail_md/?lang=0&opkey=B154514576219988&srvc=0&amode=MD100000&bibid=20361) COE Lecture Note (Math-for-industry) vol. 34, ISSN 1881- 4042

#### Articles

D. Lukkassen, G. Nguetseng, P. Wall (2002). Two-scale convergence. *Int. J. Pure Appl. Math.*, 2 (2), p. 51. <https://www.diva-portal.org/smash/get/diva2:975509/FULLTEXT01.pdf>

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Approved by the Faculty Board of Health, Science and Technology 05/07/2026