| **Information provided by:** | **Risto Kosonen** |
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| **Course code** | EEN-L5004 |
| **Course name** | Theoretical Modelling of HVAC Systems |
| **Credits (cr)** | 6 cr |
| **Responsible teacher** | Risto Kosonen |
| **Responsible department** | Master program in building energy and HVAC technology (department of mechanical engineering) |
| **Period(s)** | III-IV |
| **Starting (year)** | 2019 |
| **Varying contents** | No |
| **Learning outcomes** | - has a basic understand of mathematical and physical modeling methodology of the building, its HVAC systems and technical components<br>- has skills to use, modify and create of new models<br>- has understanding of the evaluating the reliability of the simulation results |
| **Contents** | - Thermal modelling using finite difference method<br>- Hydraulic models of networks<br>- Modelling of contaminant penetration<br>- Thermal and hydraulic models of components<br>- Validation of models |
| **Assessment method and criteria** | Weights for the final course mark are: materials processing work/presentation 30 %, home work 30%, course assignment 40%. |
| **Requirements** | - |
| **Literature** | course handouts and literature |
| **Replaces** (if applicable) | Ene 58.5181 |
| **Prerequisites** (if applicable) | - |
| **Grading** | 0-5 |
| **Language of instruction** | English |
| **Additional info** (if applicable) | |