# Course: Simulation Technology                                   credits: 2

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| **Course code** | ELVH17GST | **Modes of delivery** | Practical / Training |
| **Name** | Simulation Technology | **Assessments** | Simulation Technology - Skills test |
| **Study year** | 2022-2023 | | |
| **ECTS credits** | 2 | | |
| **Language** | Dutch, with parts in English | | |
| **Coordinator** | J. Zijlstra | | |

**Learning outcomes**

- Student can explain what a differential equation is
- Student can draw up a differential equation
- Student can apply differential equations to a basic electric system
- Student can apply differential equations to a basic rotating system
- Student can indicate the relationship between differential equations and Laplace transform
- Student can explain the control principles P, I, and D in a feedback system
- Student can work with system transfers
- Student can apply differential equations to a control system in the Laplace domain

**Content**

- System equations, differential equations
- Laplace theory
- Overshoot, rise-time
- Stable and instable systems
- Proportional, differential and integrating controllers
- Simulation of a variation of physical systems and simulation of controlling a dynamic system

**Included in programme(s)**

Electrical Engineering Major Electronics

**School(s)**

Institute of Engineering