

## Vak: Regeltechniek

credits: 5

|                     |               |                   |                                                             |
|---------------------|---------------|-------------------|-------------------------------------------------------------|
| <b>Vakcode</b>      | ELVH17GREG    | <b>Werkvormen</b> | Gastcollege                                                 |
| <b>Naam</b>         | Regeltechniek |                   | Practicum / Training                                        |
| <b>Studiejaar</b>   | 2020-2021     |                   | Werkcollege                                                 |
| <b>ECTS credits</b> | 5             | <b>Toetsen</b>    | Regeltechniek - Schriftelijk, organisatie<br>tentamenbureau |
| <b>Taal</b>         | Nederlands    |                   |                                                             |
| <b>Coördinator</b>  | J. Zijlstra   |                   |                                                             |

### Leeruitkomsten

The student can:

- Develop and analyse 1st and 2nd order system models by means of, or resulting in the corresponding differential equation; and can derive the transfer function of such systems, identifying their characteristic values. In this course we concentrate on mechanical and electrical systems.
- Construct system models using block diagrams, and can identify the different forms of transfer functions.
- Determine the dynamic response of system components to different inputs and disturbances using the method of Laplace transforms and transfer functions.
- Use and apply basic methods for stability and error analysis in order to analyse steady state errors
- Identify the poles and zeros of a dynamic system, and use these methods to analyse the stability behaviour of systems.
- Apply basic methods (e.g. proportional-integral-derivative control [PID]) to design feedback systems.
- Apply the concepts of frequency response to construct and interpret Bode diagrams.
- Calibrate a sensor and determine the transfer function of a sensor controlled process by comparing practical results to theory.
- Evaluate control error and control instability in a control system and relate this to theoretical considerations.

### Inhoud

*Geen tekst beschikbaar*

### Opgenomen in opleiding(en)

Elektrotechniek Major Elektronica  
Elektrotechniek Major Mechatronica

### School(s)

Instituut voor Engineering

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