| Module Name | Industrial Automation Engineering |
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| **Module Number** | EuI-ET-E-IndAT, EuI-IST-E-IndAT |
| **Responsible Lecturer** | PD Dr.-Ing. Annerose Braune<br>annerose.braune@tu-dresden.de |
| **Qualification Objectives** | After completing the module, students:<br>- understand fundamental concepts, protocols, and services of modern information technologies for industrial automation solutions,<br>- are able to assess the opportunities and risks of their application, and<br>- possess basic experience and skills in handling current implementation technologies relevant to automation applications. |
| **Contents** | The module covers:<br>- Automation concepts and solutions for spatially and functionally distributed automation systems,<br>- concepts as well as hardware and software solutions of modern communication systems for automation,<br>- aspects of functional and information security in distributed automation systems, and<br>- fundamentals of model-based technologies. |
| **Teaching and Learning Forms** | 3 hours per week of lectures, 1 hour per week of exercises, and self-study. |
| **Prerequisites for Participation** | The competencies acquired in the module "Automation Engineering" are required. |
| **Usability** | The module is an elective module in the elective area "Competence Deepening" according to § 6 paragraph 3 of the study regulations and § 33 paragraph 4 of the examination regulations of the main study program in the field of Automation Technology and Robotics in the diploma program Electrical Engineering. Furthermore, it is an elective module in the elective area "Competence Deepening" according to § 6 paragraph 3 of the study regulations and § 33 paragraph 3 of the examination regulations of the main study program in the field of Automation, Sensor Technology, and Robotics in the diploma program Information Systems Engineering. The module creates the prerequisites for the modules that list it under "Prerequisites for Participation." |
| **Prerequisites for the Award of Credit Points** | Credit points are awarded when the module examination is passed. The module examination consists of a written exam lasting 120 minutes. |
| **Credit Points and Grades** | 5 credit points can be earned through the module. The module grade corresponds to the grade of the examination performance. |
| **Frequency of the Module** | The module is offered in the summer semester. |
| **Workload** | The total workload is 150 hours. |
| **Duration of the Module** | The module lasts one semester. |