1-5 Transversal skills

Section:	Foundation course	**Credits:**	10
Offered:	every semester	**Semester:**	1
Prerequisites:	none	**Responsible for the module:**	Dean of the Faculty

Structure

Submodule	LP	SWS	Type	PVL	PL	KS	ES	Lecturer
General Studies	4	4			Stu	60 h	60 h	LA
Technical English	2	2	L + E		mPu 15 min	30 h	30 h	Siegismund
CAD	2	2	L + E		Stu	30 h	30 h	Pabst
Programming	2	2	L + E		Stu	30 h	30 h	Rall

Learning objectives

General Studies

Students acquire skills in the field of general education and key skills, depending on their choice.

Technical English

To provide and enhance the student's ability to converse and write on the subject at a competent level of fluency. Participants can understand a wide range of subject specific texts. Students are able to express themselves fluently and spontaneously without too much searching for expressions. They can use language flexibly and effectively for social, academic and professional purposes. Students can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organisational patterns, connectors and cohesive devices.

CAD

Based on an exemplary, well-known program, students learn how to use and how to deal with CAD. They learn and practice the practical application based on project examples from real life. Aspects of graphic representation, for example by issuing plans, and in particular, the dimensioning of systems and components using CAD-integrated or complementary calculation tools as well as the meaningful integration in the planning process is conveyed. The skills include the basis for plan creation and calculations in the context of project work.

Programming

The students use these and other technical basics for independent solution of simple scientific engineering problems using a programming language, or to solve more complex issues, in dialogue with computer scientists. The focus of the applications is the analysis of measurement data and the application of numerical methods. In addition, students learn how to deal with applications for typesetting, word processing, spreadsheets and software programs for presentations.

Contents

Technical English

Basics in Maths and Physics (Energy, Power), describing graphs and diagrams, various energy systems (conventional, renewable), basics in technical related business English.

CAD

Basic knowledge of technical drawing: standardisation, plan content, presentation, dimensions, annotations, plan head, legend, plan types;

Program operation of CAD tool: features (simple geometric shapes, blocks, "intelligent" objects), input interfaces (keyboard, mouse, pen tablet) layer technology, reference plans, 2D/3D display, coordinate system, import, export/output, data structures, file formats;