

Smart and Keen Company – My Trolley Chip

Based on the [students module](#) with the same title, this module covers a wide range of competences which are mapped in the matrix. In a first step you will have to analyse your own competences and to find out lacking competences. Consider forming a teacher team to cover the missing competences. Still missing competences can be substituted with the results of the relevant student module.

Below you will find a video which gives an overview over the whole learning sequence. There under is the teachers' competence matrix 4.0 in which all necessary competences are mapped. After this and as core of this module, you find your tasks.

Competences Trained by Working on this Module

Competences Matrix Teachers Vet 4.0				
Competence development fields	Digital competencies			
	1. Professional competences 4.0	2. Media competences	3. Application know-how	4. Basic ICT know-how and skills
A. To develop and implement annual teaching plan and to manage documents	1.1. To identify technological and organizational changes in the mechatronics and electronics in the systemic way for the training course and to prepare them didactically. 1.2. To evaluate the possibilities and risks of the digitalized work and business processes. 1.3. To restructure networked process chains in learning 1.4. To train by applying content of embedded systems, including their operating systems. 1.5. To provide know-how on handling interactions with sensors, reading information and collecting of data. 1.6. To train on handling the processes of robotics (robot and "cobot"), including know-how to program and control production robots in the different technological processes. 1.7. To provide know how on the installation and exploitation of the Internet of Things and CPS.	2.1 To identify and assess digital key competences applied in the ICT media. 2.2 To identify the media competences applied in the work, business and social contexts. 2.3 To design and plan the installation of the media technologies in the school. 2.4 To organize cooperation of learners in the digital learning environment. 2.5 To organize knowledge management.	3.1. To install learning management systems. 3.2. To install specialized social media 3.3. To install professional software for learning 3.4. To select and install the didactic instruments for cooperative learning 3.5. To document the digital teaching plans for common (cooperative) usage. 3.6. To handle software for management.	4.1 To install professionally Office software appliances. 4.2 To configure and set-up learning management systems 4.3 To provide digital applications in the local area network
B. To plan and design learning processes	1.1. To design the concept of digital process chain (4.0) in the teaching and learning process. 1.2. To select digitalized learning and teaching scenarios that facilitate problem oriented and self-organized learning. 1.3. To plan and execute interactive, virtual and individual learning phases. 1.4. To organize the interdisciplinary cooperation in the learning process.	2.1. To select, install and evaluate the digital teaching and learning scenarios. 2.2. To check the used media for accessibility/openness, problem solving and requirement level. 2.3. To check on how the media facilitate development of decision making skills, abilities to cooperate and creativity.	3.1 To install the elements of digital learning scenarios and formats (Blended und Online-Learning)	4.1. To integrate audio and video data 4.2. To prepare video-tutorials 4.3. To prepare Digitalized Content 4.4. To integrate the data from external and internal sources in the teaching. 4.5. To consider copyright protection issues.
C. To communicate, cooperate	1.1. To select interactive media for learning and training. 1.2. To present the information and data for learners by using interactive media. 1.3. To ensure the safety of personal and corporate data used in the training and work processes.	2.1. To execute timely and operative communication with the internal (school) and external addressees regardless their location and time.	3.1. To apply the digital communication instruments for the regular and remote teaching. 3.2. To use electronic teaching diaries.	4.1. To evaluate the data of learning, teaching and work processes. 4.2. To handle inquiries and feedback from the digitalized instruments.
D. To analyze and evaluate learning process, achievements and success of learners	1.1. To check media usage for occupational and learning relevance. 1.2. To design reflection processes. 1.3 To evaluate content, human and technical resources for media use.	2.1. To identify informally and non-formally acquired digital skills. 2.2. To analyze students' media literacy development. 2.3. To analyze and classify media technology in the course of education.	3.1. To plan and evaluate the formats of individual and team activities. 3.2. To select and install the online tools for diagnostics and assessment of performance at learning and work.	4.1. To collect, aggregate, analyze and evaluate data from learning processes (Learning Analytics) 4.2. To adjust the performance rating tools. 4.3. To apply privacy and data security requirements

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Tasks

1. Please, retrace the student module and the intended learning process.

Tools: [mapped teacher matrix](#), [student's module](#), [basic questions](#)

2. If necessary, rebuild the final product by your own.

Tools: [student's module](#),

3. Reflect on where there were difficulties and how to avoid them in class.

4. Consider the need for adjustment with regard to your own students and map the competence matrix for students.

Tool: [competence matrix for students](#)

5. Adjust the module or refine it by filling out these forms:

Tool:

[Explanation of the structure of student`s modules](#)

[Form Sequencing student`s module](#)

[Learning Modules Requirement](#)

[Evaluation student`s module](#)

6. Evaluate your own learning process.


















Tool: [Evaluation form](#)



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Drawings, Printed Files, PLC, Purchased Parts

-  [assembly-module.pdf](#) (66,2 KiB)
-  [assembly-module-complete.pdf](#) (267,9 KiB)
-  [assembly-module-complete-AB.pdf](#) (263,9 KiB)
-  [assembly-station-version1.pdf](#) (638,5 KiB)
-  [assembly-station-version1-AB.pdf](#) (648,9 KiB)
-  [Base plate-version1.pdf](#) (100,7 KiB)
-  [chip-assembly-version-2.pdf](#) (41,2 KiB)
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-  [chip-bottom-version-2.pdf](#) (47,2 KiB)
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-  [Rotating base bottom assembly-version1-AA.pdf](#) (267,4 KiB)
-  [Rotating base top assembly-version1AA.pdf](#) (266,8 KiB)
-  [Grafcet1.png](#) (171,4 KiB)
-  [Grafcet2.png](#) (212,8 KiB)
-  [GrafcetHand.png](#) (204,5 KiB)
-  [GrafcetMain.png](#) (93,5 KiB)
-  [plc.rar](#) (243,4 KiB)
-  [print-files.rar](#) (986,7 KiB)
-  [purchased parts.rar](#) (23,3 KiB)
-  [Teacher Module Personal Trolley Chip Assembler.docx](#) (64,6 KiB)



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Assessment

Assessment of all products to be delivered:

- list of important changes of work processes for your students
- list of competences you and your students need to reach
- list of competences you want to acquire in short-term
- your students' module
- an evaluation tool

Evaluation

Reflect and exchange your experience with other colleagues (in your working group or a virtual working group), define a focus you want to reflect on with your students and create a suitable evaluation tool for them.

⇒ [Proposal for Self Reflection](#)

Useful links

- <https://www.surveymonkey.de/>
- <https://www.limesurvey.org/de/>
- <https://www.umfrageonline.com/>
- <https://de.wordpress.com>
- <https://de.jimdo.com/>
- <https://de.wix.com/>
- <https://www.weebly.com/de>
- <https://www.tumblr.com/>
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