



# AUSTRALIAN CURRICULUM: GERMAN CLIL UNIT PLANNER

**SEQUENCE: F-10**

**YEAR LEVEL/BAND: 9-10**

**UNIT: JUNIOR UNIVERSITÄT**

**LECTURE: CODING MIT CALLIOPE MINI**

*This Unit Planner developed by, and kindly shared by former [AFMLTA](#) President, Kylie Farmer, has been adopted by the Goethe-Institut in Australia.*

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**Please note**

These resources are designed to be implemented optimally with a focus on the content knowledge as well as language. CLIL is flexible; however, to enable the learning of new content and/or skills through the target language some code switching between the students’ first language and the target language might be required. Assessment may be in the form of observation, conversation or a product.

**Focus Questions:** Can a robot show feelings? How is coding used to program a simple robot?

**Concepts:** algorithms, coding

Communication	Content
<p><b>Communicating - Socialising</b>  <a href="#">(ACLGEC172)</a> shared activities - persuading, arguing, planning, negotiating</p> <p><b>Communicating - Creating</b>  <a href="#">(ACLGEC177)</a> create imaginative texts, entertaining, composing, performing</p> <p><b>Communicating - Translating</b>  <a href="#">(ACLGEC179)</a> create bilingual texts aspects of language and culture</p> <p><b>Understanding - Systems of Language</b>  <a href="#">(ACLGEU182)</a> features of spoken and written language - pronunciation, stress, contractions  <a href="#">(ACLGEU183)</a> vocab and grammatical structures- future, imperative, relative pronouns</p>	<p><b>Learning Areas</b></p> <ul style="list-style-type: none"> <li>● <b>Mathematics:</b> How is coding used to solve problems in mathematics? <a href="#">(ACMMG221)</a></li> <li>● <b>Civics and Citizenship:</b> How could a robot be used to indicate danger in a local area by gathering data in a survey? <a href="#">(ACHCS083)</a></li> <li>● <b>Economics and Business:</b> Discuss different contexts where a simple robot could logically be used in businesses or improve the economy using a cost-benefit analysis. <a href="#">(ACHES046)</a></li> <li>● <b>The Arts:</b> How could you use a robot to compose music or a dance? <a href="#">(ACADAM020)</a>, <a href="#">(ACAMUM100)</a></li> <li>● <b>Technologies:</b> How do algorithm blocks work? <a href="#">(ACTDIP040)</a></li> <li>● <b>Health and PE:</b> In pairs, ‘program’ one another through an obstacle course. <a href="#">(ACPM101)</a></li> </ul> <p><b>General Capabilities</b></p> <ul style="list-style-type: none"> <li>● <b>Critical and Creative Thinking:</b> Design a robot that can do all your least favourite household jobs for you.</li> <li>● <b>Personal and Social Capability:</b> Do you like doing jobs around the house? Why/ Why not?</li> <li>● <b>Ethical Understanding:</b> How is housework ethically shared amongst members of your family? Is this so in all families?</li> <li>● <b>Intercultural Understanding:</b> How is housework viewed in different cultures?</li> </ul> <p><b>Cross-Curriculum Priorities</b></p> <ul style="list-style-type: none"> <li>● <b>Asia and Australia’s Engagement with Asia:</b> How is housework viewed in some Asian households? <a href="#">(OI.1)</a></li> <li>● <b>Sustainability:</b> How could simple household robots help to reduce the carbon footprint? <a href="#">(OI.8)</a></li> </ul>
<h2>Cognition</h2>	
<p><b>Understanding - Systems of Language</b>  <a href="#">(ACLGEU184)</a> describe the interrelationship between Text types, structuring, language choice</p> <p><b>Understanding - Language Variation and Change</b>  <a href="#">(ACLGEU185)</a> how and why language used differently - dialects, register, changes in context</p>	
<h2>Culture</h2>	
<p><b>Communicating- Reflecting</b>  <a href="#">(ACLGEC181)</a> own identity, exploring, explaining, cultural mediator</p> <p><b>Communicating- Translating</b>  <a href="#">(ACLGEC178)</a> interpret, translate, difficulties</p>	

**Aspects of the 9-10 Band Achievement Standard being addressed through this Lecture:** Suggested aspects of the Achievement Standard for the proposed Assessment Tasks are noted numerically on the following page next to each task. A full listing of all aspects of the Achievement Standard is to be found on the final page, noting that the numbering system is not from ACARA, but rather developed for the purpose of presenting this series of Unit Planners.

	Student Tasks	Language Assessment Tasks	Materials and Resources	
<b>Implementation</b>	<p><b>Facilitating Communication</b> - of, for, through learning</p> <ul style="list-style-type: none"> <li>Explain how a simple robot functions.</li> <li>Name and assign the components of the Calliope Mini and describe their functions. Convert sentence fragments into imperative sentences.</li> <li>Write commands for programming a vehicle robot.</li> <li>Make suggestions as to how a vehicle can be programmed with the Calliope Mini.</li> <li>Answer questions about the structure and functionality of the Calliope Mini.</li> </ul> <p><b>Analysing Key Content</b> Understand the applied content of a technical video.</p> <ul style="list-style-type: none"> <li>Understand that the Calliope Mini is a robot that can execute programmed commands using algorithms.</li> <li>Understand that programs are written using an editor.</li> <li>Understand how a simple robot works.</li> </ul> <p><b>Opportunities for Cognition</b></p> <ul style="list-style-type: none"> <li>Interpret command blocks of the Calliope Mini editor.</li> <li>Transfer the commands of the editor into complete sentences.</li> <li>Define commands for a vacuum cleaner robot.</li> <li>Understand the text type of a set of algorithms.</li> <li>Understand systems of language e.g. grammatical aspects: imperative and future tense.</li> <li>Reflect on their learning.</li> </ul> <p><b>Connecting with Culture</b> Understand elements of culture relating to the lecture.</p> <ul style="list-style-type: none"> <li>How is homework viewed in different cultures?</li> </ul>	<p><b>Formative: Lesen/Zuordnen/Schreiben</b> A1/A2: AB 5.1 Calliope mini – Die Bauteile A2/B1: AB 5.1 Calliope mini – Die Bauteile</p>	6, 7 6, 7	<p><b>Materials:</b> Class set of Calliope Minis (if available) or another simple programmable robot (e.g. Blue-Bots, Lego Mindstorms)</p> <p><b>Resources:</b></p> <ul style="list-style-type: none"> <li>Students logged in to the Junioruni website to access the exercises or print a copy of the exercises to complete before/during and after watching the video as a class.</li> <li>Access to digital or hardcopy dictionaries is ideal for some activities</li> </ul> <p><b>Additional Teacher Resources:</b> Handbook, attachments and video script are available for pdf download from the teacher’s version of the website.</p> <p><b>Materials for download:</b> Dennis und die Algorithmen: <a href="https://www.planet-schule.de/wissenspool/dennis-und-die-algorithmen/inhalt.html">https://www.planet-schule.de/wissenspool/dennis-und-die-algorithmen/inhalt.html</a></p> <p>Energiesparspiel-Einfach mal abschalten: <a href="https://www.planet-schule.de/sf/multimedia-lernspiele-detail.php?projekt=energiesparspiel">https://www.planet-schule.de/sf/multimedia-lernspiele-detail.php?projekt=energiesparspiel</a></p>
		<p><b>Formative: Lesen/Zuordnen/Schreiben</b> A1/A2: AB 5.2 Kleines Calliope Mini - Quiz A2/B1: AB 5.2 Wie wird der Calliope Mini programmiert?</p>	6, 7 4, 6, 7, 11, 15	
		<p><b>Summative: Schreiben/Sprechen</b></p> <p>Mein Haushaltsroboter: Design a robot that can do all your least favourite household jobs for you. Write sentences describing what it can/should/must do using modal verbs. Read your text aloud to a partner for them to draw your robot with all the attachments.</p>	1, 2, 5, 9, 10	
	<p><b>Inquiry Based:</b> Students select an area of interest around the concept of <i>Coding mit Calliope Mini</i> (see Content Focus above for further ideas) and present their findings to the class, year level, school community or wider audience.</p> <p>Hands-on Activities: In pairs, ‘program’ one another through an obstacle course.</p> <p>Try out your programming skills on different robots:</p> <ul style="list-style-type: none"> <li>A1: Coding with Blue-Bot- <a href="https://www.goethe.de/ins/au/en/spr/unt/kum/cli/cli/st_e/blb.html">https://www.goethe.de/ins/au/en/spr/unt/kum/cli/cli/st_e/blb.html</a></li> <li>A2/B1: Lego Mindstorms- <a href="https://www.goethe.de/ins/au/en/spr/unt/kum/cli/cli/st_e/rob.html">https://www.goethe.de/ins/au/en/spr/unt/kum/cli/cli/st_e/rob.html</a></li> </ul>	1, 3, 4, 5, 7, 9, 10, 12, 15, 16, 17, 18		

Lecture: <b>Coding mit Calliope Mini Observational Assessment</b>	Achievement Standard	How I see myself:			How my teacher sees me:		
		I know this in German.	I know this in English.	I still need to work on this.	You know this in German.	You know this in English.	You still need to work on this.
I can ...	<b>1, 2, 5</b>						
• engage and sustain interactions with peers in class, group and paired activities	<b>1, 2, 5</b>						
• understand what is being said in German on the video.	<b>6, 7, 8, 11</b>						
• explain how a simple robot functions.	<b>1, 2</b>						
• name and assign the components of the Calliope Mini and describe their functions.	<b>6, 7</b>						
• convert sentence fragments into imperative sentences.	<b>4, 12</b>						
• write commands for programming a vehicle robot.	<b>1, 4, 12</b>						
• make suggestions as to how a vehicle can be programmed with the Calliope Mini.	<b>1, 2, 5</b>						
• answer questions about the structure and functionality of the Calliope Mini.	<b>4, 6, 7</b>						
• interpret command blocks of the Calliope Mini editor.	<b>4, 6, 7, 12</b>						
• transfer the commands of the editor into complete sentences.	<b>4, 10, 12</b>						
• define commands for a vacuum cleaner robot.	<b>1, 2, 5, 9, 10</b>						
• understand the text type of a set of algorithms.	<b>16, 17</b>						
• understand systems of language e.g. grammatical aspects: imperative and future tense.	<b>4, 11, 15</b>						
• reflect on my learning.	<b>13, 18</b>						
• understand elements of culture relating to the lecture.	<b>13, 14, 17, 18</b>						
• understand the applied content of a technical video.	<a href="#">(ACTDIP040)</a>						

### Overall Assessment

<b>Well Above Standard A</b>	<b>Above Standard B</b>	<b>At Standard C</b>	<b>Below Standard D</b>	<b>Well Below Standard E</b>
The student can complete all of the challenges above in German with minimal English to help explain content, displaying excellent cognitive, communicative and creative skills.	The student can complete all of the challenges above in German with some English to help explain content, displaying above average cognitive, communicative and creative skills.	The student can complete most of the challenges above in English with some German words and phrases, displaying sound cognitive, communicative and creative skills.	The student can complete some of the challenges above in English with some German words and phrases, displaying sound cognitive, communicative and creative skills.	The student can complete little or none of the challenges above in English, displaying limited cognitive, communicative and creative skills.

## **Australian Curriculum: German 9-10 Band Achievement Standard (F-10 Sequence)**

1. Students use written and spoken German to initiate and sustain interactions with teachers, peers and others in a range of settings and for a range of purposes.
2. Students use language spontaneously in the classroom environment to seek clarification and advice, assist others, initiate conversations and discussions, debate a course of action, share learning strategies and comment on the contribution of others.
3. Students describe plans and aspirations using future tense.
4. Students state facts and relate experiences, using past tense forms and regular and irregular verbs.
5. When speaking, students use appropriate pronunciation, intonation and stress in a range of sentence types, including variations such as contractions.
6. Students locate, synthesise and evaluate information on local and global issues from a range of perspectives and sources.
7. Students present ideas, information and views in a range of texts selected to suit audience, purpose and context.
8. Students analyse the main ideas and themes in imaginative texts and use evidence to support their views.
9. Students plan, draft and present imaginative texts using literary devices (imagery, similes, onomatopoeia) to engage a range of audiences.
10. When creating informative, persuasive and imaginative texts, students use a variety of conjunctions, relative clauses and other cohesive devices to build cohesion,
11. Students specify and describe people, places and objects by applying knowledge of the case system to articles, common demonstratives and possessives followed by adjectives.
12. Students interpret and/or translate excerpts from German texts, identifying and explaining culture-specific aspects, and create texts that reflect and explain aspects of culture and language for different German-speaking and Australian audiences.
13. Students identify and challenge their own assumptions and take responsibility for modifying language and behaviours in relation to different cultural perspectives.
14. Students identify ways that language influences people's actions, values and beliefs, and appreciate the scale and importance of linguistic diversity.
15. Students explain the roles of different German cases (nominative, accusative, dative and genitive) and tenses, and variations in spoken and written German in relation to pronunciation, spelling and punctuation.
16. Students explain the relationship between text type, audience and purpose.
17. Students identify the role culture plays in the creation and interpretation of texts, and explain how language and text features (layout, structure and formal/informal register) are used differently in a range of texts.
18. Students explain ways in which language and culture are interrelated and influence each other.