

# SYLLABUS ECCC

Area: **Digital competences – DigComp 2.1**  
 Module: **DC 2.1 M5 Problem Solving**  
 Level: **Advanced (C6)** – according to own needs and those of others, and in complex contexts.

Module **DC 2.1 M5 Problem Solving** Level C6 includes proficiency Level 6 of the DigComp 2.1 framework in the Competence Area 5: Problem Solving.

Competences are verified in the following competence titles:

1. **Solving technical problems.**  
*To identify technical problems when operating devices and using digital environments, and to solve them (from trouble-shooting to solving more complex problems).*
2. **Identifying needs and technological responses.**  
*To assess needs and to identify, evaluate, select and use digital tools and possible technological responses and to solve them. To adjust and customise digital environments to personal needs (e.g. accessibility).*
3. **Creatively using digital technologies.**  
*To use digital tools and technologies to create knowledge and to innovate processes and products. To engage individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments.*
4. **Identifying digital competence gaps.**  
*To understand where one's own digital competence needs to be improved or updated. To be able to support others with their digital competence development. To seek opportunities for self-development and to keep up-to-date with the digital evolution.*

The competence verification is carried out in the following groups:

1. Knowledge (K).
2. Skills (S).
3. Abilities (A).

## The scope verified by the ECCC exam of module DC 2.1 M5 (Level C6)

		LEARNING OUTCOMES			K	S	A
C6_CP1	(5.1) To master advanced skills of solving technical problems.	DC2.1_1	Can appraise technical problems when operating devices and using digital environments.				
		DC2.1_2	Can resolve them with the most appropriate solutions.				
		C6_LO1	Knows how a computer or digital device is built.	✓			
		C6_LO2	Knows how a digital technology tool should work properly.	✓			
		C6_LO3	Can recognize a malfunctioning tool.		✓		

		LEARNING OUTCOMES		K	S	A
		C6_LO4	Can assess a malfunctioning device.		✓	
		C6_LO5	Take an active approach to solving problems.			✓
		C6_LO6	Can think of alternatives when problems cannot be solved and things have to be done.			✓
C6_CP2	(5.2) To master advanced skills of identifying needs and technological responses.	DC2.1_3	Can assess needs.			
		DC2.1_4	Can choose the most appropriate digital tools and possible technological responses to solve those needs.			
		DC2.1_5	Can decide the most appropriate ways to adjust and customise digital environments to personal needs.			
		C6_LO7	Is aware of the most relevant or popular digital technologies used by others ( <i>e.g. reputed experts</i> ).	✓		
		C6_LO8	Can strictly and precisely assess the issue / problem he/she is dealing with and can select a set of digital technology tools ( <i>software, hardware</i> ) with the help of which he/she will be able to solve them.	✓		
		C6_LO9	Has reasonable knowledge of available technologies, their strengths and weaknesses and whether and how they might support the achievement of personal goals.	✓		
		C6_LO10	Is able to make informed decisions ( <i>with human or technological assistance where appropriate</i> ) about whether and how to use technologies to pursue personally relevant goals.		✓	
		C6_LO11	Can monitor and test, as well as critically evaluate the selected tools in relation to the optimal solving the problem.		✓	
		C6_LO12	Can identify in which areas the use of digital technology tools will not bring the expected effect.		✓	
		C6_LO13	Critically evaluates possible solutions using digital tool			✓
		C6_LO14	Is aware of the value of traditional tools in conjunction with networked media.			✓
C6_CP3	(5.3) To master advanced knowledge of creatively using digital technologies.	DC2.1_6	Can adapt the most appropriate digital tools and technologies to create knowledge and to innovate processes and products.			
		DC2.1_7	Can resolve individually and collectively conceptual problems and problem situations in digital environments.			
		C6_LO15	Uses a widely diverse and well-balanced mix of digital and non-digital technologies for different problems and will dynamically change options over time.	✓		
		C6_LO16	Knows how to solve a theoretical problem, of individual or collective interest, through or with the support of digital tools.	✓		
		C6_LO17	Knows how to find the relevant knowledge for the solution of theoretical problems.	✓		

		LEARNING OUTCOMES			K	S	A
		C6_LO18	Knows organizations, institutions, research centres and institutes that conduct open research.	✓			
		C6_LO19	Is capable of exploiting technological potentials in order to represent and solve problems.		✓		
		C6_LO20	Can present a conceptual problem with the help of digital technology tools.		✓		
		C6_LO21	Knows how to solve problems individually and collectively.		✓		
		C6_LO22	Can create own course on a specific topic using multiple digital technology tools.		✓		
		C6_LO23	Can create training materials in various forms, him/herself and in collaboration with others.		✓		
		C6_LO24	Can share training materials and courses using the Internet.		✓		
		C6_LO25	Is willing to explore alternative solutions that are offered by technologies.			✓	
		C6_LO26	Sees the potential of technologies and media for self-expression and knowledge creation.			✓	
		C6_LO27	Values the added value of new media for cognitive and creative processes.			✓	
		C6_LO28	Can use, as a "lecturer" or manager, the selected educational platform.			✓	
		C6_LO29	Is able to join the currently conducted research and actively participates in them through own and shared digital technology tools.			✓	
C6_CP4	(5.4) To master advanced skills of identifying digital competence gaps.	DC2.1_8	Can decide which are the most appropriate ways to improve or update one's own digital competence needs.				
		DC2.1_9	Can assess the development of others' digital competence.				
		DC2.1_10	Can choose the most appropriate opportunities for self-development and to keep up-to date with new developments.				
		C6_LO30	Has first-hand knowledge and expertise of the major digital technologies used in his/her field.	✓			
		C6_LO31	Knows training organisations and institutions conducting training in the field of digital technologies, as well as the methods and places where he/she can learn about new digital technologies.	✓			
		C6_LO32	Can self-monitor personal goals and can diagnose deficiencies of digital competence required for reaching these goals.		✓		
		C6_LO33	Can support others in monitoring and diagnosing.		✓		

LEARNING OUTCOMES			K	S	A
C6_LO34	Is able to adapt smoothly to new technology and to integrate technology into his/her environment		✓		
C6_LO35	Is able to learn and integrate the new technologies that emerge.		✓		
C6_LO36	Can transfer knowledge.		✓		
C6_LO37	Includes more and more digital instruments in everyday life to increase the quality of life.		✓		
C6_LO38	Reflects own digital skills and development (the ability to be aware of oneself as a digitally literate person and to reflect on one's own digital literacy development).				✓
C6_LO39	Can encourage others to expand their digital knowledge and promotes it through the available tools of digital technologies.				✓
C6_LO40	Has a general level of confidence, meaning that he/she is willing to experiment with new technologies, but also to reject inappropriate technologies.				✓

Practical skills, verified by the ECCC DC2.1 M5 exam, concern:

1. A computer workstation as PC / laptop equipped with a camera, microphone, speakers / headphones, scanner and with Internet access with a minimum bandwidth of 2 Mb/s.
2. Operating system: MS Windows 7 or newer.
3. A tablet (Windows or Android compatible with the device) or smartphone (Android compatible with the device).
4. Microsoft Office 2007 or newer (MS Word, MS Excel, MS Power Point) or Libre Office v.5 or newer.