

SYLLABUS ECCC

Area: **Digital competences – DigComp 2.1**

Module: **DC 2.1 M5 Problem Solving**

Level: **Advanced (C5) – as well as guiding others.**

Module DC 2.1 M5 Problem Solving Level C5 includes proficiency Level 5 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 C5)

COURSE PURPOSES		LEARNING OUTCOMES			K	S	A
C5_CP1	(5.1) To master skills of solving technical problems.	DC2.1_1	Can assess technical problems when operating devices and using digital environments.				
		DC2.1_2	Can apply different solutions to them.				
		C5_LO1	Knows how a computer or digital device is built.	✓			
		C5_LO2	Knows how a digital technology tool should work properly.	✓			
		C5_LO3	Can recognize a malfunctioning tool.		✓		
		C5_LO4	Can assess a malfunctioning device.		✓		

COURSE PURPOSES		LEARNING OUTCOMES		K	S	A
		C5_LO5	Take an active approach to solving problems			✓
		C5_LO6	Can think of alternatives when problems cannot be solved and things have to be done			✓
C5_CP2	(5.2) To master skills of identifying needs and technological responses.	DC2.1_3	Can assess needs.			
		DC2.1_4	Can apply different digital tools and possible technological responses to solve those needs.			
		DC2.1_5	Can use different ways to adjust and customise digital environments to personal needs.			
		C5_LO7	Is aware of the most relevant or popular digital technologies used by others (<i>e.g. reputed experts</i>).	✓		
		C5_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.	✓		
		C5_LO9	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.		✓	
		C5_LO10	Can monitor and test, as well as critically evaluate the selected tools in relation to the optimal solving the problem.		✓	
		C5_LO11	Can identify in which areas the use of digital technology tools will not bring the expected effect.		✓	
		C5_LO12	Critically evaluates possible solutions using digital tool			✓
		C5_CP3	(5.3) To master knowledge of creatively using digital technologies.	DC2.1_6	Can apply different digital tools and technologies to create knowledge and to innovate processes and products.	
DC2.1_7	Can apply individually and collectively cognitive processing to resolve different conceptual problems and problem situations in digital environments.					
C5_LO13	Uses a widely diverse and well-balanced mix of digital and non-digital technologies for different problems and will dynamically change options over time.			✓		
C5_LO14	Knows how to solve a theoretical problem, of individual or collective interest, through or with the support of digital tools			✓		
C5_LO15	Knows organizations, institutions, research centres and institutes that conduct open research.			✓		
C5_LO16	Is capable of exploiting technological potentials in order to represent and solve problems.				✓	
C5_LO17	Can present a conceptual problem with the help of digital technology tools.				✓	

COURSE PURPOSES		LEARNING OUTCOMES			K	S	A
		C5_LO18	Can create own course on a specific topic using multiple digital technology tools.		✓		
		C5_LO19	Can create training materials in various forms, him/herself and in collaboration with others.		✓		
		C5_LO20	Can share training materials and courses using the Internet.		✓		
		C5_LO21	Is willing to explore alternative solutions that are offered by technologies.			✓	
		C5_LO22	Can use, as a "lecturer" or manager, the selected educational platform.			✓	
		C5_LO23	Is able to join the currently conducted research and actively participates in them through own and shared digital technology tools.			✓	
C5_CP4	(5.4) To master skills of identifying digital competence gaps.	DC2.1_8	Can demonstrate where his/her own digital competence needs to be improved or updated.				
		DC2.1_9	Can illustrate different ways to support others in the development of their digital competence.				
		DC2.1_10	Can propose different opportunities found for self-developments and to keep up-to-date with the digital evolution.				
		C5_LO24	Has first-hand knowledge and expertise of the major digital technologies used in his/her field.	✓			
		C5_LO25	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.	✓			
		C5_LO26	Can self-monitor personal goals and can diagnose deficiencies of digital competence required for reaching these goals.		✓		
		C5_LO27	Can support others in monitoring and diagnosing.		✓		
		C5_LO28	Is able to adapt smoothly to new technology and to integrate technology into his/her environment		✓		
		C5_LO29	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)			✓	
		C5_LO30	Can encourage others to expand their digital knowledge and promotes it through the available tools of digital 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.