



Curriculum administration

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Introduction

The European/international computer driving licence <https://icdl.org/> (ECDL/ICDL) is used as the basis for this curriculum because the content is identical in all EU countries. This content is supplemented by teaching content specific to the blind and visually impaired.

If it is not possible to obtain qualifications or validate skills and abilities in a country, the establishment of a certification body for knowledge, skills, abilities and social competences should be aspired.

This curriculum was developed as part of the ERASMUS Plus project Skills for Inclusive Working 2021-2-AT01-KA210-VET-000050866.

Partners:

Bundes-Blindenerziehungsinstitut Wien: <http://bbi.at>

Centrum dla Niewidomych i Słabowidzących Kraków: www.blind.krakow.pl

Vienna Business School Schönborngasse Wien: <https://schoenborngasse.vbs.ac.at>

1. General educational objective

- The aim is to obtain an EU-wide certificate based on the ICDL standard of the individual countries.
- The curriculum is a cross-school form of assistance in preparation for work in the primary labour market and is aimed at pupils with blindness or visual impairment, taking into account an inclusive setting.
- The programme is aimed at students aged 15 and over. Internships and other subjects are organised according to national regulations.

On completion of the programme

(<https://www.ris.bka.gv.at/Dokumente/Bundesnormen/NOR40234935/NOR40234935.pdf>), students have the following skills:

- Taking an active and responsible role as an entrepreneur, employee or consumer
- Developing creative and sophisticated solutions for the digital requirements of the working world
- Being able to obtain and evaluate information
- Working in a team and taking responsibility
- Lifelong learning through further education and training and learning from and with each other
- Social learning, socially responsible behaviour
- Show empathy, appreciation and motivation

2. Didactic principles

Teaching and learning objectives

The trainees

- know the computer and online basics
- can use basic functions of word processing, spreadsheets and a presentation programme

- know the basics of IT security
- choose one of the following specialisations: Databases, online collaboration, image processing or computing

The following cross-module skills and abilities must be taught and practised:

- Preparation of documents
- OCR
- Correction and structuring of documents (headings, page transitions, insertion of tables and graphics, insertion of image descriptions if the required information is available, ...)
- Accessibility
- Conversion into various formats (e.g. text, pdf/a, html)
- Knowing the technique of image descriptions
- Typing on the keyboard
- For the visually impaired: Screen orientation techniques
- Be able to get an overview of a document and the associated workload

Lesson planning

The planning of the lessons depends on the training time requirements in the individual countries, the number of trainees, the availability and type of equipment in an office, etc.

Teaching methods

The teaching methods are adapted to the customs of the individual countries.

3. Teaching principles

The school has been given educational tasks ("teaching principles") that cannot be assigned to a single subject, but can only be dealt with on an interdisciplinary basis (<https://www.ris.bka.gv.at/Dokumente/Bundesnormen/NOR40234935/NOR40234935.pdf>). The teaching principles include development education, education for gender equality, European education, education for entrepreneurial thinking and behaviour, health education, reading and language education, media education, political education, sex education, environmental education, transport education and business and consumer education. Another teaching principle is the development of social skills (social responsibility, communication skills, teamwork skills, leadership skills and role security) and personal skills (independence, self-confidence and self-esteem, stress resistance and an attitude towards a healthy lifestyle and lifelong learning).

4. Timetable

The timetable is organised according to the circumstances of the individual countries.

5. School-autonomous curriculum regulations

The schools of the individual federal states can issue autonomous school regulations.

6. Additions specific to the blind and visually impaired

The following hardware and software priorities must be taken into account across all modules:



- Setting up a digital workplace that takes individual needs into account
- Operation of a screen reader
- Use of magnification software
- Learning how to use an OCR system
- Introduction to the use of a reading device
- If the handling of graphic objects is required (for example in Module 3 "Word processing", there under 4.3 "Graphic objects" and in Module 5 "Presentation", there under 5. "Graphic objects"), it must be taken into account that people with a visual impairment have difficulty creating graphic objects and people with blindness can hardly create graphic objects, but can insert graphic objects, if necessary after asking the examiner whether the insertion was successful. .
- As diagrams are graphical objects (for example mention in Module 5 "Presentation", there 4. "Diagrams"), special consideration must be given to blindness and visual impairment. Assistance by the examiner is permitted to the extent that the examiner is instructed by the candidate to carry out what the candidate cannot do him/herself due to his/her visual impairment. Under no circumstances may points be deducted from the candidate's score because of these problems!

7. Contents of the individual modules

There are 6 compulsory modules and 4 optional modules. The learning content is based on the ECDL/ICDL syllabus <https://icdl.org/icdl-modules-programs/>. Some elective modules are not suitable for people with blindness. At least one of the elective modules must be completed in order to obtain the certificate.

1. Computer basics - compulsory module

Educational and teaching task:

This module covers the essential knowledge and skills required when using computers and mobile devices, creating and managing files, working with networks and ensuring data security.

The candidates can

- Understand the basics of information and communication technology (ICT), computers, mobile devices, software and accessories
- Start up and shut down a computer
- Work efficiently with icons and windows on the desktop
- Customise the operating system settings and use the help function
- Create and print a simple document
- know the most important basics of file management and organise folders and files sensibly
- Understand the basics of data storage and storage media and compress and extract files using utility software
- Understand the basics of networks and their connection options and establish a connection to a network
- Understand why protecting data and devices from malware and creating backups is important
- recognise the importance of green IT, accessibility and measures to keep computer users healthy



Subject matter:

1 Computers and mobile devices

- 1.1 ICT
- 1.2 Hardware
- 1.3 Software and licensing
- 1.4 Start-up and shutdown

2 Desktop, icons, settings

- 2.1 Desktop and icons
- 2.2 Using windows
- 2.3 Tools and settings

3 Data output

- 3.1 Working with text
- 3.2 Printing

4 File management

- 4.1 Files and folders
- 4.2 Organising files and folders
- 4.3 Memory and compression

5 Networks

- 5.1 Basic network terms
- 5.2 Access to a network

6 Safety and well-being

- 6.1 Protecting data and devices
- 6.2 Malware
- 6.3 Health and green IT

2. Online basics - compulsory module

Educational and teaching task:

This module covers the essential knowledge and skills required for web browsing, efficient information searches, online communication and e-mail use.

The candidates should

- Understand the basics of web browsing and online safety
- Use web browsers and make browser settings
- Use bookmarks/favourites and print web content
- efficiently search for online information and critically assess web content
- Understand basic provisions of copyright law and data protection
- understand the basics of online communities, online communication and e-mail communication, know the areas of application and objectives of the new communication media
- Be able to send, receive, search and organise emails, make email settings
- be able to use the calendar for appointments/meetings

Subject matter:

1 Web browsing basics

- 1.1 Basic knowledge
- 1.2 Security and protection

2 Web browsing

- 2.1 Using a web browser
- 2.2 Extras and settings
- 2.3 Favourites/bookmarks
- 2.4 Data output from the web

3 Web-based information

- 3.1 Search
- 3.2 Critical assessment
- 3.3 Copyright, data protection

4 Communication basics

- 4.1 Online communities
- 4.2 Communication tools
- 4.3 E-mail basics

5 Use e-mail

- 5.1 Sending e-mails
- 5.2 Receiving e-mails
- 5.3 Extras and settings
- 5.4 Organising e-mails
- 5.5 Using the calendar

3. Word processing - compulsory module

Educational and teaching task:

This module covers the essential knowledge and skills required when using a word processing programme to create everyday documents.

The candidates should

- work with documents and save them in various file formats locally or online
- Use help functions, information sources, keyboard shortcuts and navigation commands to increase productivity
- Create and edit documents in a word processing programme so that they are ready for distribution
- apply different formatting and templates to improve quality and use them sensibly in accordance with good practice
- Insert tables, images and drawn objects into a document
- Prepare documents for a mail merge
- Adjust the page layout of a document and check and correct spelling before printing

Subject matter:

Use 1 programme

- 1.1 Working with documents
- 1.2 Increase in productivity

2 Create documents

- 2.1 Text input
- 2.2 Selecting, editing

3 Formatting

- 3.1 Text
- 3.2 Paragraphs
- 3.3 Format templates

4 objects

- 4.1 Create table
- 4.2 Formatting tables
- 4.3 Graphic objects

5 Mail merge

- 5.1 Preparation
- 5.2 Output
- 6 Prepare output
- 6.1 Settings
- 6.2 Checking and printing

4. Spreadsheet calculation - compulsory module

Educational and teaching task:

This module covers the basic concepts and skills required for the sensible use of a spreadsheet and for correct work results.

The candidates should

- Work with workbooks and save them in various file formats locally or online
- Use help functions, information sources, keyboard shortcuts and navigation commands to increase productivity
- Enter data in cells and create lists correctly; select, sort, copy, move and delete data
- Edit rows and columns in a spreadsheet; copy, move, delete and rename spreadsheets appropriately
- create mathematical and logical formulae using standard spreadsheet functions; create formulae correctly and recognise standard error messages in formulae
- Formatting numbers and text content in a workbook; applying style sheets
- Select suitable diagram type, create and format diagrams to present information in a meaningful way
- Adjust page layout and check and correct the contents of the workbook before printing

Subject matter:

1. use programme

- 1.1 Working with workbooks
- 1.2 Increase in productivity

2 cells

- 2.1 Input, selection
- 2.2 Editing, sorting
- 2.3 Copying, moving, deleting

3 Working with spreadsheets

- 3.1 Rows and columns
- 3.2 Spreadsheets

4 Formulas and functions

- 4.1 Arithmetic formulae
- 4.2 Functions

5 Formatting

- 5.1 Number and date values
- 5.2 Cell contents
- 5.3 Alignment, framework effects

6 Diagrams

- 6.1 Create
- 6.2 Edit

7 Prepare printout

- 7.1 Settings
- 7.2 Checking and printing

5. Presentation - compulsory module

Educational and teaching task:

This module covers the essential knowledge and skills required for the competent use of a presentation programme.

The candidates should

- work with presentations and save them in various file formats locally and online
- Use help functions and information sources to increase productivity
- Use the appropriate presentation view for different tasks; use different slide layouts and designs
- Insert, edit and format text and tables in presentations; know the advantage of clear slide titles; use the slide master for a uniform slide design
- Select suitable diagram type, create and format diagrams to present information in a meaningful way
- Insert, edit and align images and drawn objects

- Apply animations and transition effects in a presentation; check and correct the content of the presentation before printing or presenting it

Subject matter:

Use 1 programme

- 1.1 Working with presentations
- 1.2 Increase in productivity

2 Develop presentation

- 2.1 Presentation views
- 2.2 Slides
- 2.3 Master film

3 Text

- 3.1 Working with text
- 3.2 Formatting
- 3.3 Tables

4 Diagrams

- 4.1 Using diagrams
- 4.2 Organisational chart

5 Graphic objects

- 5.1 Inserting, editing
- 5.2 Drawing

6 Prepare output

- 6.1 Preparation
- 6.2 Control, presentation

6. IT Security - compulsory module

Educational and teaching task:

This module provides knowledge about the safe use of ICT in everyday life, about suitable measures for a secure network connection, about security on the Internet and about the correct handling of data and information.

The candidates should

- understand the importance of data and information security and know the principles of data protection, data storage, data control and privacy protection
- Know the threats to personal security posed by identity theft and the potential threat to data from cloud computing
- Be able to use passwords and encryption to secure files and data
- Understand the threat of malware and how to protect computers, mobile devices and networks from malware and respond correctly to malware attacks
- know common security features of networks and wireless connections and be able to use personal firewalls and personal hotspots
- Protect computers and mobile devices from unauthorised access and be able to handle and change passwords securely

- be able to use appropriate web browser settings and know how to determine the trustworthiness of a website and surf the Internet safely
- understand that security issues can arise when communicating via email, VoIP, instant messaging and social networks, as well as through the use of mobile devices
- Be able to back up and restore data to local storage locations and the cloud, securely delete data and dispose of devices

Subject matter:

1 Basic concepts of security

- 1.1 Data threat
- 1.2 Value of information
- 1.3 Personal safety
- 1.4 Security for files

2 Malware

- 2.1 Types and modes of operation
- 2.2 Protection
- 2.3 Problem solving and rectification

3 Security in the network

- 3.1 Networks and connections
- 3.2 Security in the wireless network

4 Access control

- 4.1 Methods
- 4.2 Password management

5 Secure web use

- 5.1 Browser settings
- 5.2 Safe surfing

6 Communication

- 6.1 E-mail
- 6.2 Social networks
- 6.3 VoIP and instant messaging
- 6.4 Mobile devices

7 Secure data management

- 7.1 Backing up data and creating backups
- 7.2 Securely delete and destroy data

7. Using databases - elective module

Educational and teaching task:

This module provides basic knowledge of database design and covers the skills required to use a database competently.

The candidates should

- understand what a database is and how it is organised
- create a simple database and display the contents of the database in various ways

- Create a table, define and change fields and field properties
- Create relationships between tables, enter and edit data in a table
- Use filters and queries to retrieve specific information from a database
- Create a form to enter, change and delete data records and data
- Create routine reports and prepare data output for printing or electronic distribution

Subject matter:

1 Understanding databases

- 1.1 Key terms
- 1.2 Database organisation
- 1.3 Relationships

2 Use programme

- 2.1 Working with databases
- 2.2 Basic tasks

3 Tables

- 3.1 Data records
- 3.2 Design
- 3.3 Relationships

4 Query information

- 4.1 Essential functions
- 4.2 Queries

5 Forms

- 5.1 Using forms

6 Output

- 6.1 Reports, data export
- 6.2 Printing

8. Online collaboration - elective module

Educational and teaching task:

This module covers the knowledge and skills required to set up and use online collaboration tools such as storage media, office applications, calendars, social media, online meetings, online learning platforms and mobile devices.

The candidates should

- Understanding the basics of online collaboration and cloud computing
- Be able to set up accounts in preparation for online collaboration
- Be able to use online storage media and web-based Office applications for collaboration
- Be able to use online and mobile calendars to plan and manage activities
- can collaborate and interact in social networks, blogs and wikis
- Plan and hold online meetings and use online learning platforms
- Understand the basics of using mobile devices and be able to use functions such as e-mail, office applications and synchronisation

Subject matter:

1 Online collaboration basics

1.1 Basic knowledge

1.2 Cloud computing

2 Preparations for online collaboration

2.1 General features

2.2 Setup

3 Use tools for online collaboration

3.1 Online storage and Office applications

3.2 Online calendar

3.3 Social media (social media)

3.4 Online meetings

3.5 Online learning platforms

4 Mobile collaboration

4.1 Basic knowledge

4.2 Using mobile devices

4.3 Applications

4.4 Synchronise

9. Image processing - elective module

Educational and teaching task:

This module covers the main concepts of digital image editing and teaches the skills to use an image editing programme to enhance, modify and prepare digital images for print or web use.

The candidates should

- understand the main concepts of digital image processing and have an overview of the main image formats and colour concepts
- open an existing image, save it in different formats and modify it
- know how to use the options of an image editing programme
- Save images from different sources and manipulate them with different tools of the image editing programme
- be familiar with the use of layers, apply effects and filters and know how to use drawing and painting tools
- images for use in print or for publication on the web.

Subject matter:

1 Basics of image processing

1.1 Digital images

1.2 Graphic formats

1.3 Colour concepts

2 Image capture

2.1 Capturing images

3 Operating the image processing programme

3.1 Image generation

3.2 Settings

3.3 Increase in productivity

4 Working with images

- 4.1 Selection
- 4.2 Image processing
- 4.3 Levels
- 4.4 Text
- 4.5 Effects and filters

5 Drawing and painting

- 5.1 Drawing tools
- 5.2 Painting tools

6 Output

- 6.1 Setup
- 6.2 Printing

10. Computing (programming) - elective module

Educational and teaching task:

This module covers the basic knowledge and skills required to apply computational thinking and coding to create simple computer programs.

The candidates should

- Understand the basics of computing and typical steps in creating a programme
- Understand and apply computational thinking methods such as problem decomposition, pattern recognition, abstraction and algorithmic design to analyse problems and develop solutions
- Write, test and edit algorithms for a programme using flowcharts and pseudocode
- Understand essential principles and key concepts of coding and the importance of well-structured and documented code
- Understand and use programming terms such as variables, data types and logic in a programme
- Improve efficiency and functionality by using iteration, conditional statements, procedures and functions as well as events and commands in a programme
- Test the programme, correct errors (debugging) and ensure that the required conditions are met before delivery

Subject matter:

1 Terms in the field of computing

- 1.1 Key terms

2 Methods of Computational Thinking

- 2.1 Problem analysis
- 2.2 Algorithmic design

3 Coding

- 3.1 First steps
- 3.2 Variables and data

4 Constructive use of code elements

- 4.1 Logic
- 4.2 Loops (iteration)

4.3 Conditional statement

4.4 Procedures and functions

4.5 Events and commands

5 Testing, troubleshooting, delivery

5.1 Executing the programme, testing, eliminating errors

5.2 Delivery of the programme

8. Office work

The following activities are to be learnt and practised during the course:

- Organise material
- Copying in paper form
- Print
- Storage of documents (digital and analogue)
- Digital and analogue signatures
- In-depth and critical internet research

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