

The EPICT Syllabus, condensed version

EPICT follows a syllabus of five compulsory themes and ten optional themes.

In the present version of the EPICT content, this is divided into four compulsory modules and twelve optional ones.

This document is a condensed version of the full EPICT syllabus.

Compulsory themes

1. ICT in teaching and learning

ICT in teaching and learning are at least three different things:

- ICT as a compensatory and/or supporting tool where ICT supports the functions, skills, competencies that the student does not fully command. For instance digital and synthetic speech, reading tools, speech recognition tools, scanner pens, prediction tools.
- ICT as a teaching tool, using ICT in the learning process – digital educational resources, presentation tools, generic software tools, Internet as a collaboration tool (for instance via VLEs), as a resource and as a publication tool.
- ICT as an object for learning. Teaching students appropriate use of ICT tools.

The teacher needs competencies and skills across three different levels:

- Handling the technology
- Understanding the technology
- Reflecting upon technology

Handling the technology means being able to perform functions on the computer and in the ICT and media tools.

Understanding the technology is the ability to use ICT and media tools to their full potential. This includes being able to select the right tool in any given context. It also means understanding and applying the working methods and processes to which the tools are relevant.

Reflecting upon technology is the ability to assess and put into perspective the consequences of using ICT and media tools both for you as a person and for teaching and learning. This also means reflecting upon personal, educational and societal consequences of the application of ICT and media tools.

The teacher needs to acquire ICT skills on all three levels to be able to use ICT in teaching and learning to its full potential – and to be able to teach the students adequate and relevant ICT skills. Thus the material will cover two different perspectives:

1. Using the computer as the teacher's personal tool, including how to use the computer when preparing for teaching and learning activities.

1. Using the computer integrated into teaching and learning activities. This includes looking at the influence of the computer on working processes but also acknowledging and integrating the new media competencies that children acquire through the use of computers, media and personal devices.

2. The computer

Teachers need a set of basic computer skills in order to be able to confidently apply the computer both as a personal tool and as a pedagogical tool. The objective is to make the teacher able to operate the computer on his or her own.

Being digitally fluent also means being able to maintain your personal computer. This includes general computer maintenance, the installation of new software and necessary plug-ins etc, and general computer security, virus control and data security and the understanding of networks and file handling.

- Start and navigate the computer
- Login on a school's local network
- The most commonly used computer terms
- File management and file formats
- Taking and using screen dumps
- Computer settings and adjustments to fit special needs
- Download and install software

3. Search and communication using the Internet

The Internet holds a wealth of information relevant not only to the teacher herself in terms of preparing teaching and learning but also for the students during their learning activities. However, the Internet is not just a source of information, it is also a publication platform and a communication channel which also needs to be addressed.

- The evaluation of websites
- Searching the internet in an educational context, search engines, strategies etc.
- Collaborative learning and collaboration on the net
- Pedagogical possibilities in using chat and net meeting at various educational levels
- Net etiquette, intellectual property rights
- The browser and external databases
- Educational portals and other free resources
- E-mail and conference systems
- Student collaboration

4. Word processing and the writing process

The use of texts and expression in writing continues to be increasingly important. With the use of computers the process of editing, commenting and amending texts has become so much simpler. Thus for the teacher it is important to both command a word processor as his or her own personal tool for text production, and, perhaps more importantly, to be able to apply the word processor as a pedagogical tool in teaching and learning activities.

- The writing process

- Facilitating and guiding students in process oriented writing
- Evaluating texts and identifying factors that influence readability
- Understanding and applying different methods to correct and comment on document contents
- Using sound and images with text documents

5. ICT and school innovation

ICT is often seen as an agent of change. In this theme ICT is analysed within the context of school innovation and the new demands that arise for transparency in school management

- School innovation, software policies, development plans and in-service training
- External demands upon school development
- Digital initiatives, resources and services available for schools, teachers and students in the area of school development

Optional themes

1. Layout

Here, teachers are required to produce their own learning resources. The candidate will guide students in their own production processes and evaluate the subsequent student outputs.

- Layout and learning (for print, for screen, for web)
- Presentations and layout
- Web-page design
- Word processor and desk top publishing tools

2. Digital images

The teacher uses images in his/her own production, students use images in their productions and images are the object of teaching and learning in media-oriented subjects.

- The student's use of digital images
- Evaluating images, including manipulation
- Students' understanding of pictures, including using images aesthetically
- The use of digital images in a learning scenario
- Students' use of pictures as a media
- Use of software for image processing
- Image file formats

3. Presentations

Using digital presentations and associated technologies provides a new genre that combines oral and written/image presentation. Teachers use presentations for teaching, learning and communication, assist their students in their production of presentations and evaluate the resultant student presentations.

- Presentations in teaching and learning
- Simple, branched and time-operated presentations

- Possible processes and work flow when the class produces a joint presentation
- Presentations and layout
- The presentation designer and simple presentations
- The presentation designer and multiple presentations
- The distribution of presentations

4. The production of web pages

Teachers will produce their own web resources, assist their students in the production and publication of web resources and evaluate the resultant productions.

- The production of web pages for teaching and learning
- The design of a web site
- Websites and responsibility
- Publishing a web site

5. Spreadsheets

Spreadsheets can be used in a vast number of contexts – to calculate, to model, to simulate, to illustrate through graphs and to provide a glossary.

- Spreadsheets in teaching and learning
- The dynamic potential of a spreadsheet
- Dynamic models
- Research uses of the spreadsheet- for instance questionnaires and surveys
- Basic examples of games that can be simulated in a spreadsheet
- Spreadsheet and figures
- Graphics in a spreadsheet
- Models and spreadsheets
- Templates for games and spreadsheets

6. Internal databases

Different uses of internal databases in teaching and learning, including differing views on how databases can be integrated into teaching and learning practice.

- Steps taken when building an internal database with students
- The elements of a database
- Database tools
- Constructing and producing reports

7. Using digital learning resources

Sources of digital learning resources, their use within various learning scenarios and their evaluation by the teacher in terms of relevance and application within a given context.

- Digital learning resources in teaching and learning
- Different genres of digital learning resources
- Evaluating digital learning resources
- Evaluation criteria for web sites

8. ICT and working methods

Applying new working methods and tools.

- Using digital mind maps in teaching and learning
- Using digital logbooks in teaching and learning
- Using digital portfolios in teaching and learning
- Web resources for teaching and learning
- Searching, evaluating, processing and dissemination of information
- Software for mind mapping
- Software for digital logbooks
- Formative assessment

9. IT as a compensatory and supportive tool

ICT in special needs education both to compensate and to support.

- Scanning paper-based material
- Editing text
- Synthetic and digital speech
- Prediction tools
- Support for the dyslexic user
- In-built Software Settings
- Scanning paper-based material
- Alternative pointing devices

10. The use of computer games in teaching and learning

Capitalising on the interactive nature of computer games and the popularity of this genre with students.

- Computer games
- Game consoles
- Gender differences in the selection of games
- Game genres
- The installation and development of computer games