International Advanced Level
Subject: Information Technology
The need for Transferable Skills

Sources: Cognitive/Intrapersonal and Interpersonal skills adapted and taken from the NRC framework

In recent years, higher education institutions and employers have consistently highlighted the need for students to develop a range of transferable skills to enable them to respond with confidence to the demands of undergraduate study and the world of work. The Organisation for Economic Co-operation and Development (OECD) defines skills, or competencies, as 'the bundle of knowledge, attributes and capacities that can be learned and that enable individuals to successfully and consistently perform an activity or task and can be built upon and extended through learning'.

To support the design of our qualifications, the Pearson Research Team selected and evaluated seven global 21st-century skills frameworks. Following on from this process, the team identified the National Research Council's (NRC) framework as the most evidence-based and robust skills framework, and have used this as a basis for our adapted skills framework.

The framework includes cognitive, intrapersonal skills and interpersonal skills. These skills have been interpreted to ensure they are appropriate for this subject. All of the skills listed are evident or accessible in the teaching, learning and/or assessment of the qualification.

Identifying and highlighting these skills in International Advanced Level qualifications ensures that it is not only the academic and cognitive skills that are developed, but those broader elements that universities highlight as being essential for success. Skills such as self-directed study, independent research, self-awareness of own strengths and weaknesses and time-management are skills that students cannot learn from a textbook but have to be developed through the teaching and learning experience that can be provided through an international curriculum.

In the tables below, we have taken the NRC framework skills and provided definitions of how each skill can be interpreted for this subject. This will enable teachers and learners to understand examples of how they can develop each skill through an International Advanced Level qualification.

Intrapersonal skills

Intellectual Openness	
Adaptability	Adapting to changing circumstances by amending plans and making refinements.
Personal and social responsibility	Recognising how own behaviour affects others, and being accountable for own actions.

Interpersonal skills

Teamwork and collaboration	
Communication	Communicating ideas to peers and teachers verbally or in writing.
Collaboration	Working with others to carry out a shared task.

Cognitive skills

Cognitive Processes and Strategies	
Critical thinking	Developing a well-supported, clearly articulated argument to support a view and using it to justify one or more conclusions. Designing IT systems that meet requirements. Evaluating IT systems, considering their suitability for intended audience and purpose and identifying strengths and weaknesses. Understanding the potential and impact of IT systems on individuals, organisations and society.
Problem solving	Breaking down a problem into its component parts, establishing their relationship to each other and to the problem as a whole. Developing IT solutions that meet specified requirements. Evaluating solutions in terms of their fitness for purpose and efficiency and identifying ways in which they could be improved.

Continuous Learning	Continuously striving to extend own knowledge, understanding and skill set. Planning and reflecting on own learning, setting goals and reviewing progress regularly.
Intellectual interest and curiosity	Seeking to broaden understanding and explore new concepts.
Work ethic/conscientiousness	
Initiative	Using own judgment and doing things without needing to be told what to do.
Self-direction	Setting own goals and working independently to achieve them.
Responsibility	Taking ownership of own work, acting independently and making own decisions.
Perseverance	Overcoming setbacks and responding to challenges.
Productivity	Using project management tools to plan and manage IT projects.
Self-regulation (metacognition, forethought, reflection)	Monitoring and controlling own actions, altering behaviour in accordance with the demands of the situation.
Ethics	Demonstrating awareness of moral and ethical issues associated with the use of IT.
Integrity	Behaving honestly and doing the right thing.
Positive Core Self Evaluation	
Self-monitoring/self-evaluation/self-reinforcement	Planning and reviewing own work as a matter of course.

Teamwork	Working in a team to complete an IT project, encouraging and giving appropriate feedback to fellow team members.
Co-operation	Working cooperatively on a team project, sharing expertise and know-how.
Interpersonal skills	Communicating effectively with others.
Empathy/perspective taking	Being aware and taking account of the feelings of others
Negotiation	Discussing with others in order to reach an agreement.
Leadership	
Leadership	Leading a team to complete a group activity.
Responsibility	Taking responsibility for the progress and outcomes of a group task.
Assertive communication	Chairing a meeting, allowing/ encouraging other attendees to contribute and directing the discussions to a conclusion.
Self-presentation	Conveying a positive image of oneself to others.

Analysis	Examining the flow of documents, information and material in order to understand how an IT system works. Using database analysis techniques to identify entities, attributes and relationships. Analysing requirements and user needs.
Reasoning/argumentation	Assessing a number of alternative solutions and selecting the most appropriate. Weighing up advantages and disadvantages and making a recommendation. Explaining the rationale for decisions made and being prepared to argue your case.
Interpretation	Interpreting and using diagrams, models, charts etc. for given scenarios.
Decision Making	Considering multiple options or alternatives, in order to select a solution that best fulfils requirements/needs.
Adaptive learning	Adapting prior knowledge, skills and experience of IT to deal with new situations/contexts.
Executive function	Managing self and own resources in order to achieve a goal.
Creativity	
Creativity	Producing effective IT solutions to problems.
Innovation	Thinking 'outside the box', looking for ways to raise the bar and having the courage to try something new.