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FIT Educator Guide

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ICTC Overview - What We Do

The Information and Communications Technology Council (ICTC) is a centre of expertise in Digital Economy research, labour market intelligence, policy development, program management and delivery. Through our strong network of industry, academia and government, we enable the progress of Canada's future economies by empowering industries to maintain a competitive advantage through a highly-skilled and innovative workforce.

Capacity Building Programs

As the leader in emerging technology and occupation research and forecasts, ICTC is at the forefront of understanding and developing workforce solutions that support Canadian businesses. ICTC's Capacity Building Programs provide the right talent with the right skills needed for industry to drive innovation and productivity in an increasingly competitive global marketplace. ICTC has numerous Capacity Building Programs designed to support through Policy and Research, Youth and Education, Skills Development, Digital Transformation and Diversity and Inclusion initiatives.

Youth & Education

FIT is one of ICTC's many Youth and Education programs. These initiatives are a commitment to students, educators, parents and employers to increase opportunities for the next generation of Canadians.
At a time when digital jobs have outpaced the talent supply, ICTC is providing solutions to Canadians by equipping youth and educators with the tools, knowledge, and resources they need for Canada's success in the 21st Century digital world. Many of the programs within this initiative involve bridging the gap between education and industry. Through programs like FIT, Business Skills Challenges, CyberDays, Professional Development Days, and our CyberTitan Competition, ICTC works not only to better prepare students for life after graduation, but also works to provide educators with skills to support their students.

Skills Development, Digital Transformation, Diversity and Inclusion

Based on the findings from Policy and Research, other Capacity Building Programs are created specifically in the areas of Skills Development, Digital Transformation and Diversity and Inclusion. These initiatives include opportunities like Skills Training and Pathways, women in technology programs, pre and post arrival services for newcomers, work-integrated learning opportunities and much more!

What is Focus on Information Technology?

Focus on Information Technology (FIT) is a secondary school program designed to teach students essential 21st century skills and competencies in information and communications technologies (ICT). Created by the Information and Communications Technology Council (ICTC), alongside top industry and educational specialists, FIT outlines the skills students will need to prepare themselves for a world and workplace where ICT is a fundamental element of their lives and jobs. FIT ensures students will acquire both the essential business and technology skills that will be needed in the future and also helps them to understand the critical roles that ICT professionals play in designing this new world.

The FIT program is designed to help students:

1 Acquire an understanding of the workplace environment, develop relevant business and technical skills, and make effective and informed career choices regarding the full range of ICT-enabled professions.

2 Incorporate business and technology competencies into their future learning.

3 Become aware of the pervasiveness and influence of technology in our world and the effect it has in our daily lives.

4 Understand the role of ICT in all types of enterprises and in the products and services they provide.

5 Identify and explore career opportunities within ICT in all sectors.

6 Apply specific ICT skills and competencies to develop solutions to common enterprise issues.

Using the FIT program, students acquire core business and technical competencies and have an opportunity to specialize in one of five ICT concentrations, which can lead into a number of post-secondary and co-op opportunities. A student who acquires the competencies of a FIT concentration and completes the program will receive an official FIT certificate, which celebrates their success in the program.

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The Need for FIT in Secondary Schools

FIT brings an important real-world perspective to business and technology teaching. It serves as a resource to help teachers and curriculum developers make business and ICT courses more relevant to students, while showing them how they are all interconnected. The program encourages a holistic approach through real problem-solving situations with real-world examples. FIT gives students the opportunity to interact with industry experts and engages them in learning that will make a difference. Finally, FIT provides students with the knowledge they need to make informed choices about their future studies and career opportunities.

Research shows that students and their parents are not aware of the full range of ICT and ICT-related occupations. Girls in particular tend to opt out of ICT courses because they perceive them as narrow and don't understand how technology addresses a wide variety of important and meaningful problems. FIT prepares students to participate in a world where everyone must make decisions about how and where they use technology and provides educators with a resource framework for designing a dynamic and relevant curriculum.

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The Value of FIT in Secondary Schools

The FIT Program is a free industry-validated curriculum resource, which curriculum developers can draw from to create new courses or assess their current curricula. Schools have access to relevant curriculum and teaching resources that help prepare their students for future employment. FIT educators are also provided with information and materials that support their work, and are given the opportunity to collaborate with other FIT educators, improving their ability to teach ICT. In addition, students, parents, and guidance counselors have full access to useful industry contacts and information about opportunities that are available in ICT.

ICTC works with provincial authorities and post-secondary institutions to arrange possible articulation agreements, such as advanced standing for FIT graduates when they enter these institutions.

# The FIT Competencies and Concentrations

The FIT Competencies and Concentrations Framework has been designed by ICTC to introduce students in secondary school to the basic work and digital literacy competencies that most people will need in the 21st Century. The program closely aligns with the different types of ICT occupations that are in high demand in Canada and with competency frameworks that are currently used by colleges, universities and industry.

While competencies have been modified and adapted for secondary school students, there is now a clear path between the FIT Program, college and university curricula, and industry occupational requirements across the full spectrum of ICT work.

The FIT framework has two levels: core Business and core Technical Competencies, and Specialized Concentrations, as illustrated in Figure 1 (page 8):

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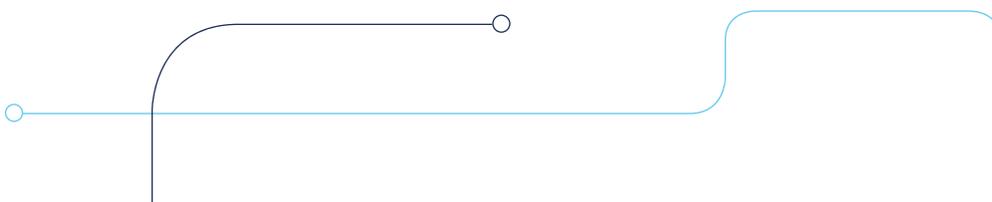
Figure 1. The FIT Competencies and Concentrations
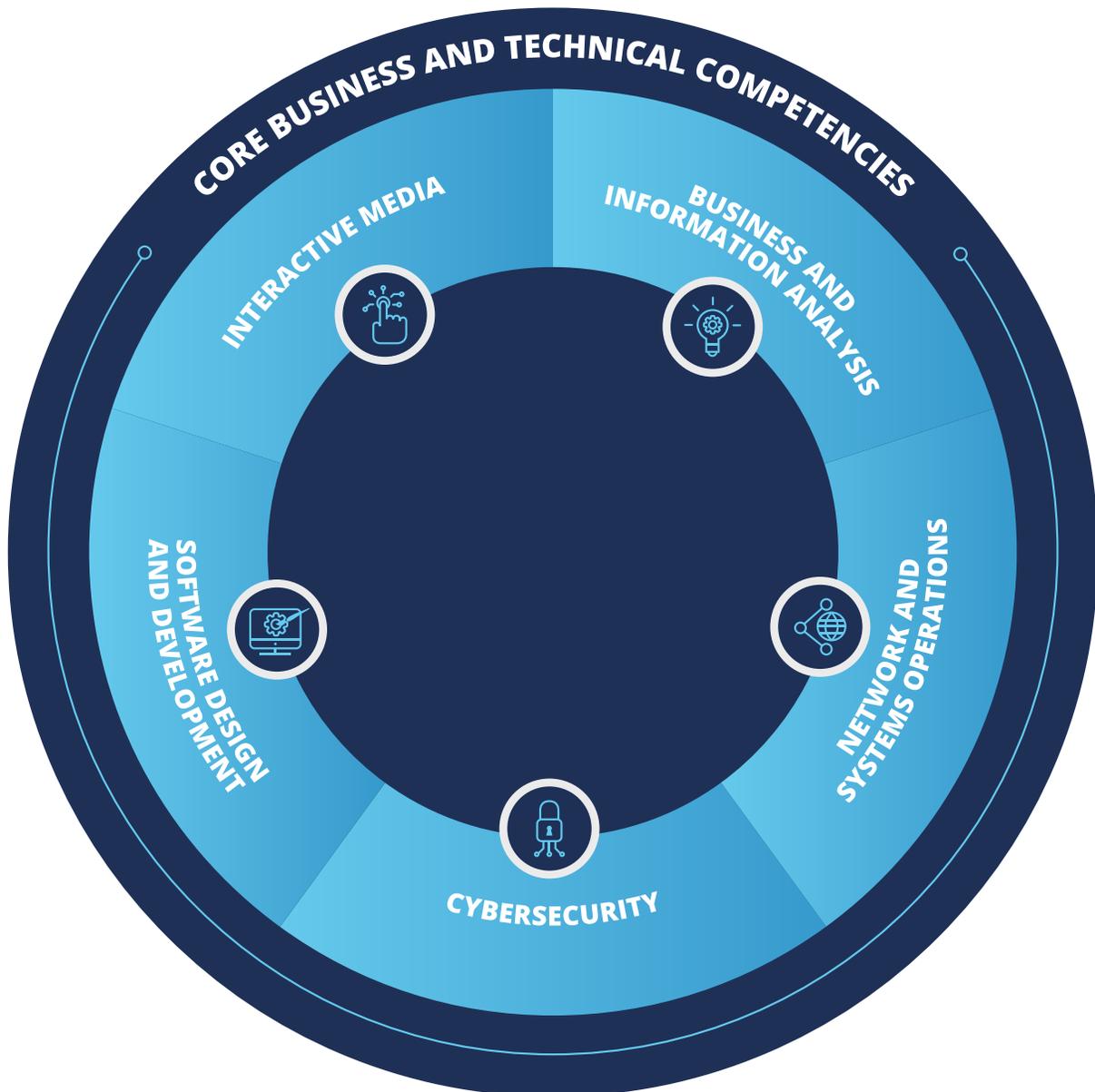
Core Business Competencies help develop students' abilities to work in all types of organizations in a business-like manner, while *Core Technical Competenc*ies introduce students to the full range of ICT occupations and how they support all types of organizations in achieving their goals.

Acquiring these fundamental competencies in early secondary school will be beneficial to all students, no matter what they choose to do in their future academic and working careers. Courses teaching these competencies will also help students make an informed decision about whether or not to pursue one or more specialized FIT concentrations as they progress through secondary school.

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The FIT Competencies and Concentrations (continued)

Students who have acquired the core FIT Business and Technical Competencies may then choose to explore one of five FIT Concentrations and their related competencies. Each concentration focuses on a specific type of ICT work and requires a different learning pathway, i.e. selection of appropriate courses in the high school curriculum. Each prepares a student for a variety of post-secondary options and co-op, internship or work experience opportunities related to a different cluster of IT work. As Figure 1 illustrates, there is some overlap between the concentrations, but each also requires the development of a unique combination of business and technical competencies:

Software Design and Development. Students take courses that deepen their technology skills, especially in the areas of solution design, Internet development, integration, programming and database development. This concentration focuses on guiding students to use their technical competencies to develop applications and systems to help solve real-world problems.

Interactive Media. Students take courses that let them learn to work in the rapidly evolving online world, including web design and development, social and digital media, interactive games and e-commerce. This concentration helps students synthesize business, technology and artistic skills to address the important new opportunities organizations are facing in an increasingly interactive world.

Network and Systems Operations. Students take courses that help them develop their skills in running the technical and communications platforms that are central to the operations of most organizations. This concentration focuses on guiding students to operate mission-critical hardware and software, solve real time problems and develop solutions to connect customers, employees, suppliers and others to an organization's products and services.

Business and Information Analysis. Students takes courses that let them develop competencies to work as a business, systems or information analyst or architect. This concentration focuses on helping students to combine enhanced business competencies with technical skills, to analyze business needs and problems, and propose solutions that incorporate technology effectively.

Cybersecurity. Students take courses that are highly regarded by industry as integral to learning the processes of protecting electronic data and hardware. This concentration will allow students to develop skills to secure computer operating systems, maintain physical security, analyse human and technical attack vectors, and plan cybersecurity policy in a rapidly dynamic and global environment.

NOTE

Students can use the competencies developed in the FIT program to acquire one of five FIT certificates, acquire other industry certifications in specialized technical areas, and help them go on to further business or technical studies in ICT or an ICT-related field at a college or university level. For more information, visit www.digitalyouth.ca.

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Figure 2. Components of the FIT Program

The FIT Program consists of seven components, which are designed to work togetherand within each province's curriculum to develop the 21st Century business and technology skills that students will need in the workplace. Figure 2 illustrates how they all work together.

Alignment

FIT Competencies and Concentrations — Provincial Curricula

FIT Registration — FIT Pathways by Province

FIT Core Business and Technical Courses **+** Courses in one FIT area of concentration

FIT Completion

(Meets standards)

FIT Certificate

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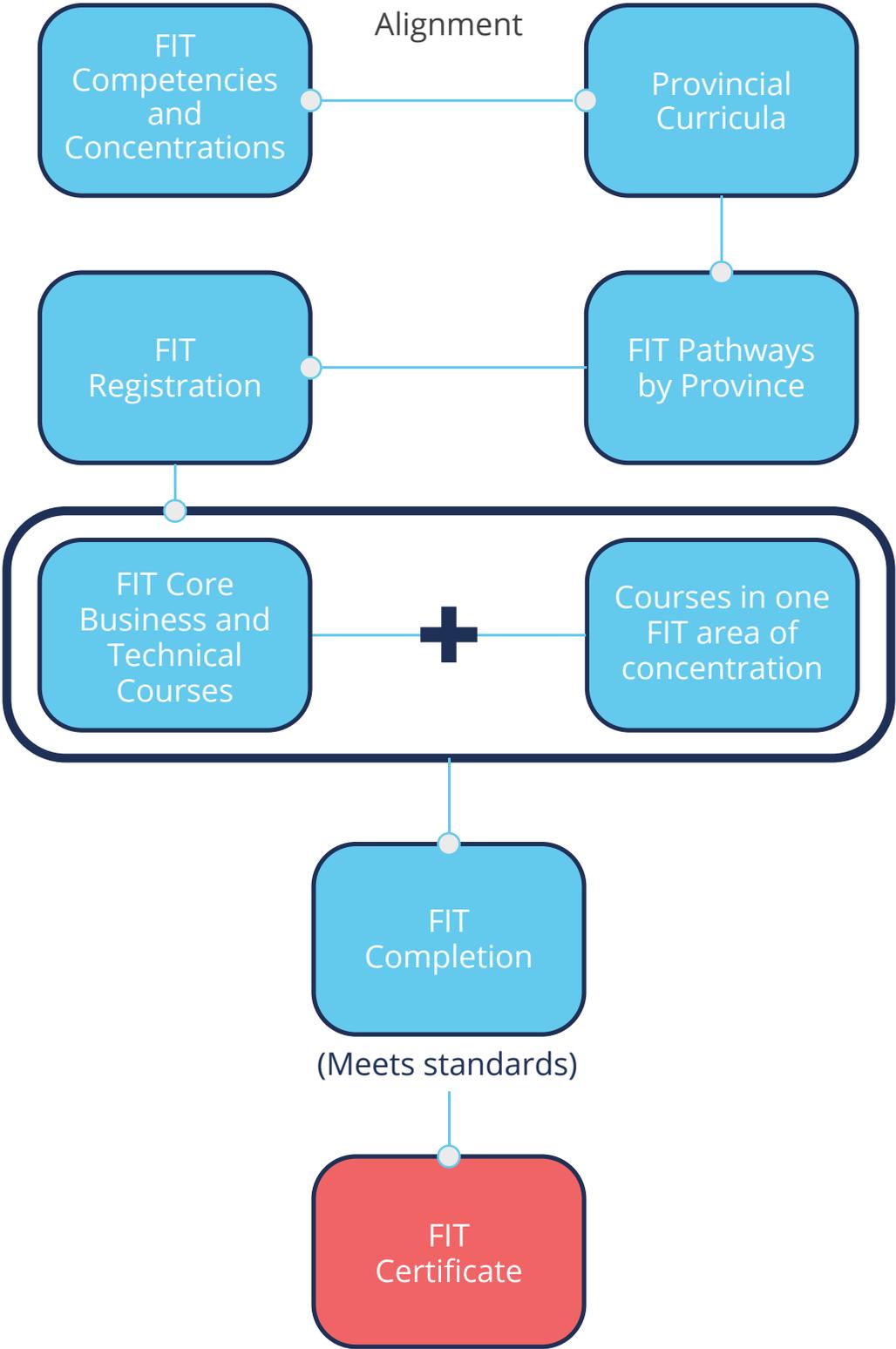
FIT and FIT-Plus+ Certificates

Students who complete the core FIT Business and Technical competencies, along with the courses required for a specific FIT Concentration, will be issued a FIT certificate in the respective concentration. Students also have the opportunity to obtain a FIT-Plus certificate if they acquire work experience in an ICT-related field and an ICT-related industry certification.

FIT Program Certificates

FIT Certificate

Achievement of core Technical and Business competencies, plus all FIT competencies for a single concentration.

FIT Certificate - Experience

Completion of a FIT certificate plus a co-op or internship credit in an ICT-related field.

FIT Certificate - Industry

Completion of a FIT certificate plus one or more ICT-related industry certifications.

FIT Certificate - Industry & Experience

Completion of a FIT certificate plus a co-op or internship credit in an ICT-related field and one or more ICT-related industry-related certifications.

FIT Certificate Plus+

Completion of a FIT certificate plus a co-op or internship credit in an IT-related field and two or more IT-related industry certifications.

For more information on industry certification and provincial testing centers please visit www.digitalyouth.ca.

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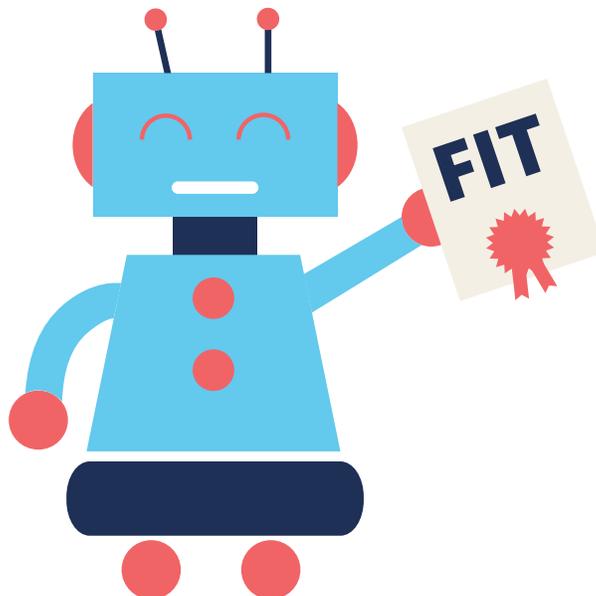
Provincial Alignment and Pathways

Alignment with Provincial Curriculum

By comparing the FIT competencies to Provincial curriculum, specialist educators were able to identify courses that would cover the content, skills and attitudes needed to achieve both FIT and Provincial outcomes.

FIT Pathways by Province

Each course on a pathway is classified as either teaching core business and technical competencies or competencies required for one (or more) of the concentrations. From this analysis, a "preferred FIT pathway" of courses, and their related competencies, has been developed for each concentration for each province. Educators and students should use these pathways through provincially-approved curricula as a guide for course selection.

Student Registration and Skills Passport

FIT Registration

A student is registered with the FIT program when they take a course approved by a FIT educator at their school. Educators are provided with FIT overview materials to explain the FIT Program to their students and their parents.

Skills Passport

ICTC provides a digital skills passport that students can use to track their skills progress through the FIT program and beyond. Students can collect badges from multiple sources and showcase their achievements to post-secondary institutions or employers.

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FIT Resources and Support for Educators

Industry Partnerships and Student Opportunities

Recognition of the FIT Program by ICT employers is an important element of its success. ICTC works both nationally and regionally to nurture partnerships between schools and industry that could lead to work and learning opportunities for FIT students and FIT graduates. Further information about industry partnerships, co-op opportunities, and work placements is available at digitalyouth.ca.

The digitalyouth.ca Website

Digitalyouth.ca acts as a resource for students and educators alike. For students, the site provides up-to-date skills development tools and opportunities including Student Learning Days, the CyberTitan Cybersecurity Competition, Business Skills Challenges, the Digital Literacy and Skills Roadmap, and allows students to take part in an online FIT community where they can share and showcase their work to the world.

The site also features the Educator Hub, which provides educators with materials and lesson plans to help support the classroom experience. The Educator Hub provides in-depth information on the FIT program, fascinating biographies of FIT educators passionate about ICT, as well as a searchable database of ICT teaching resources. A secure, password-protected area of the Hub also allows educators to learn about FIT competencies, share their own teaching resources with educators across the country, and request FIT certificates for their students who have completed the program.

Educator Support

All schools should have at least two lead FIT educators, if possible, who coordinate the FIT program in their school. Digitalyouth.ca also provides support and training opportunities for current and new FIT educators. Through our website and social media, our online community enables educators to share strategies and assignments, ask questions, and consult with educator specialists and ICTC support staff. You can also sign up for our quarterly newsletter online and stay informed on news and events in ICTC's Youth & Education initiatives.

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