National Forum for Skills Anticipation – Deck of skills cards
What are skills cards?

• Skills cards contain future skills that were compiled and evaluated by the anticipation groups of the National Forum for Skills Anticipation.

• Skills evaluations were produced with a survey and expert workshops.

• Skills are organised on the basis of sector groups. There are 33 sector groups but skills evaluations were not created for all groups.

• The skills on the cards are generic skills, skills needed in working life and digital skills.

• The cards list the growing and key skills needs in each sector group in 2035.

• More detailed sector-specific skills can be found in the National Forum for Skills Anticipation’s sector materials.
Natural resources, food production and environment
Agriculture, fishing and veterinary activities 2035

Growing skills needs

Generic and working life skills

- resource efficiency and circular economy skills
- ability to utilise digital platforms
- skills related to the management and control of digital operations
- interaction and communication skills
- cybersecurity: skills related to the protection of personal data and privacy
- ability to use and utilise robotics and sensor technology

- multicultural skills
- seeing the big picture
- business skills
- innovation skills
- problem-solving skills

Basic digital skills

- digital communication skills
- digital co-operation skills
- information searching skills
- digital information sharing skills
- information management skills
- information evaluation skills
- skills related to the protection of digital tools and content
- skills related to the solving of technical problems
- ability to apply digital tools
- understanding of digital technology and the environmental impact of its use
- ability to use digital technology creatively

- Utilisation of Big Data and artificial intelligence
- Ability to use digital technology creatively
- Digital communication skills
- Ability to utilise digital platforms and skills related to their management and control
- Innovation skills (ability to generate new ideas and apply them to create added economic value)
- Cybersecurity: Skills related to the protection of personal data and privacy
- Business skills
- Multicultural skills
- Problem-solving skills
- Decision-making ability
- Resource efficiency and circular economy skills
- Ability to use and utilise robotics and sensor technology
- Digital information sharing skills
- Interaction and communication skills

Forestry 2035

Growing skills needs

Generic and working life skills

- people and competence management and coaching skills
- co-operation skills
- organisation skills
- leadership skills
- innovation skills
- ability to utilise digital solutions
- the sector’s role in society and public dialogue
- self-regulation
- customer service skills
- business skills
- development and management of personal competence
- skills in customer-oriented development of services

Basic digital skills

- information evaluation skills
- digital communication skills
- knowledge of copyrights and licences
- information management skills
- digital information sharing skills
- ability to identify digital skills gaps
- digital co-operation skills
- ability to use digital technology creatively

Key skills needs

- Value chain skills
- Skills in customer-oriented development of services
- Customer service skills
- Development of expert services
- Skills related to the management and control of digital operations
- People and competence management and coaching skills
- Self-regulation
- Leadership skills
- Business skills
- Marketing skills
- Sales skills
- Co-operation skills
- Environmental skills

Finnish National Agency for Education, oph.fi/oefoorumi
Manufacture of food products 2035
Growing skills needs

Generic and working life skills
• skills related to the management and control of digital operations
• ability to utilise digital solutions
• ability to utilise digital platforms
• sustainable development and responsibility
• seeing the big picture
• automation management skills
• information management and analysis skills

Basic digital skills
• ability to develop digital content
• ability to apply digital tools
• ability to use digital technology creatively
• understanding of digital technology and the environmental impact of its use
• digital co-operation skills
• programming skills
• digital communication skills
• skills related to the re-refining and integration of digital content
• active digital citizenship
• skills related to the protection of physical and mental health against risks associated with digital environments and technology

Key skills needs
• Ability to utilise digital solutions
• Skills related to the re-refining and integration of digital content
• Ability to use digital technology creatively
• Ability to apply digital tools
• Development and management of personal competence
• Skills related to the protection of personal data and privacy
• Innovation skills (ability to generate new ideas and apply them to create added economic value)
• Sustainable development and responsibility
• Cost management
• Manual skills
• Business skills
• Logistics skills

Finland National Agency for Education, opf.fi/oefoorumi
Business and administration
Trade 2035

Growing skills needs

Generic and working life skills

- time management skills
- analytical thinking skills
- skills in customer-oriented development of services
- development and management of personal competence
- ability to utilise digital platforms
- entrepreneurship skills
- project management skills

- multiprofessional skills
- business skills
- seeing the big picture
- flexibility
- interaction and communication skills
- self-regulation

Basic digital skills

- information evaluation skills
- digital identity management skills
- ability to identify digital skills gaps
- knowledge of copyrights and licences
- skills related to the protection of personal data and privacy
- digital co-operation skills
- ability to use digital technology creatively

- information management and analysis skills
- Customer service skills
- Digital identity management skills
- Ability to utilise digital platforms
- Ability to utilise digital solutions
- Development and management of personal competence
- Self-regulation
- People and competence management and coaching skills
- Creativity
- Change process skills
- Problem-solving skills
- Information evaluation skills

Finnish National Agency for Education, oph.fi/oefoorumi
Financial and insurance services 2035

Growing skills needs

Generic and working life skills

- ethicality and sustainable development
- self-management
- ability to apply technology, robotics and artificial intelligence
- customer focus/understanding of the customer experience
- people and competence management and coaching skills

Basic digital skills

- trust – digital partnership
- application of data
- digital information sharing skills
- netiquette
- skills related to the protection of personal data and privacy
- ability to apply digital tools
- understanding of digital technology and the environmental impact of its use
- digital co-operation skills
- digital communication skills
- active digital citizenship
- understanding of digital structures/context/situations/infrastructure
- information management skills
- information evaluation skills
- knowledge of copyrights and licences

- co-operation skills
- ability to learn
- creativity
- ability to inspire and motivate

Key skills needs

- Customer focus/understanding of the customer experience
- Self-management
- Skills in customer-oriented development of services
- Application of data
- Understanding of digital structures, context, situation and infrastructure
- Ethicality and sustainable development
- Ability to apply technology, robotics and artificial intelligence
- Trust – digital partnership
- Creativity
- Management of one’s own digital footprint
- Identification of own skills and their strengthening
- Information management and analysis skills
- Social skills
- Curiosity
- Co-operation skills

1 Finnish National Agency for Education, oph.fi/oefoorumi
Business and development services for business life 2035

Growing skills needs

Generic and working life skills

- analytical thinking skills
- skills related to the management and control of digital operations
- robotics, coding and the utilisation of artificial intelligence
- ability to utilise digital solutions
- ability to utilise digital platforms
- skills related to the further refining of AI-guided legal services
- management of remote and virtual services
- entrepreneurship skills
- stress tolerance
- critical thinking skills
- self-regulation
- time management
- ethicality
- environmental skills
- process competence
- identification of the customer’s actual needs
- counselling skills
- acting in international multicultural networks
- innovation skills

Basic digital skills

- information management skills
- information evaluation skills
- skills related to the re-refining and integration of digital content
- ability to develop digital content
- digital co-operation skills
- digital communication skills
- digital information sharing skills
- digital identity management skills
- skills related to the protection of personal data and privacy
- ability to apply digital tools
- active digital citizenship

Key skills needs

- Stress tolerance
- Time management skills
- Skills related to professional ethics
- Analytical thinking skills
- Digital co-operation skills
- Ability to utilise digital solutions
- Ethicality and responsibility
- Critical thinking skills
- Ability for lifelong learning
- Negotiation and mediation skills
- Problem-solving skills
- Ability to use robotics technology
- Understanding and management of AI-based solutions
- Information evaluation skills
- Information searching skills
- ICT skills
- Interaction and communication skills

---

1 Finnish National Agency for Education, oph.fi/oefoorumi
Rental and support services for business life 2035

Growing skills needs

Generic and working life skills

- ability to use robotics technology
- management of remote and virtual services
- skills related to the management and control of digital operations
- ability to utilise digital solutions
- ability to utilise digital platforms
- customer service skills
- skills in customer-oriented development of services
- group work skills
- flexibility

Basic digital skills

- active digital citizenship
- digital identity management skills
- netiquette
- digital communication skills
- digital information sharing skills
- digital co-operation skills
- ability to identify digital skills gaps
- understanding of digital technology and the environmental impact of its use
- skills related to the protection of physical and mental health against risks associated with digital environments and technology
- skills related to the protection of personal data and privacy

- stress tolerance
- conflict resolution skills
- pressure tolerance
- ability to react quickly
- multicultural skills
- seeing the big picture
- self-regulation

- skills related to the protection of digital tools and content
- ability to use digital technology creatively
- ability to apply digital tools
- knowledge of copyrights and licences
- skills related to the re-refining and integration of digital content
- ability to develop digital content

Key skills needs

- Skills related to professional ethics
- Skills in customer-oriented development of services
- Ethicality
- Management of remote and virtual services
- Digital identity management skills
- Skills related to the re-refining and integration of digital content
- Ability to utilise digital platforms
- Flexibility
- Critical thinking skills
- Multicultural skills
- Pressure tolerance
- Stress tolerance

1 Finnish National Agency for Education, oph.fi/oefoorumi
Public administration 2035

Growing skills needs

Generic and working life skills

- development and management of personal competence
- anticipation skills
- ability to learn
- creativity
- innovation skills
- network, partnership and stakeholder skills
- management of remote and virtual services
- skills related to the management and control of digital operations

Basic digital skills

- information evaluation skills
- digital information sharing skills
- information searching skills
- skills related to the protection of personal data and privacy
- ability to identify digital skills gaps
- digital communication skills
- skills related to the re-refining and integration of digital content
- ability to develop digital content
- active digital citizenship

Key skills needs

- Analytical thinking skills
- Active digital citizenship
- Ability to develop digital content
- Digital process and solution skills
- Skills related to the protection of digital tools and content
- Anticipation skills
- Development and management of personal competence
- Innovation skills
- Cognitive ergonomics
- Creativity
- Counselling, guidance and management skills
- Ability to learn
- Information evaluation skills
- Digital information sharing skills

1 Finnish National Agency for Education, oph.fi/oefoorumi
Education, culture and communications
Communications and publishing activities 2035

Growing skills needs

Generic and working life skills

- ability to use digital technology creatively and ethically
- ability to utilise digital solutions
- ability to utilise digital platforms, applications, systems and devices
- skills related to the management and control of digital operations
- innovation skills and creativity
- flexible teamwork skills preparedness for continuous learning
- skills related to the evaluation, searching, re-refining and integration of digital content
- time management skills
- multicultural skills

Basic digital skills

- information searching, evaluation and editing skills
- ability to use digital technology creatively and ethically
- knowledge of copyrights and licences
- active digital citizenship
- digital identity management skills
- digital co-operation skills
- skills related to the protection of digital tools and content
- problem-solving skills
- information management and analysis skills
- interaction and communication skills
- co-operation skills
- development and management of personal competence
- people and competence management and coaching skills
- digital information sharing skills
- information management skills

Key skills needs

- Ability to utilise digital platforms, applications, systems and devices
- Innovation skills and creativity
- People and competence management and coaching skills
- Entrepreneurship skills
- Skills related to understanding the global perspective
- Resilience
- Ability to use digital technology creatively and ethically
- Skills related to the evaluation, searching, re-refining and integration of digital content
- Subject matter knowledge

1 Finnish National Agency for Education, oph.fi/oefoorumi
Education 2035

Growing skills needs

Generic and working life skills

- problem-solving skills
- ability to utilise digital platforms
- innovation skills
- analytical thinking skills
- time management skills
- ability to utilise digital solutions
- ability to use robotics technology
- ability to inspire and motivate
- critical thinking skills
- information management and analysis skills
- flexibility
- skills in customer-oriented development of services
- skills related to the management and control of digital operations

Basic digital skills

- information evaluation skills
- digital information sharing skills
- digital communication skills
- ability to develop digital content
- information searching skills
- information management skills
- ability to use digital technology creatively
- digital co-operation skills
- skills related to the protection of physical and mental health against risks associated with digital environments and technology
- active digital citizenship
- digital identity management skills
- skills related to the protection of personal data and privacy

Key skills needs

- Analytical thinking skills
- Ability to use digital technology creatively
- Digital co-operation skills
- Ability to utilise digital platforms
- Ability to utilise digital solutions
- Ethicality
- Ability to inspire and motivate
- Utilisation of artificial intelligence (AI)
- Critical thinking skills
- Multicultural skills
- Problem-solving skills
- Information evaluation skills
- Digital information sharing skills
- Network, interaction and social skills (incl. group work skills and social skills)
Arts and entertainment activities 2035

Growing skills needs

Generic and working life skills

- innovation skills
- environmental skills
- knowledge of the principles of sustainable development
- multicultural skills
- ethicality
- problem-solving skills
- multiprofessional skills
- interaction and communication skills
- customer service skills

- ability to utilise digital solutions
- self-regulation
- seeing the big picture
- multitalentedness
- social skills
- co-operation skills

Basic digital skills

- knowledge of copyrights and licences
- information evaluation skills
- ability to develop digital content
- digital information sharing skills
- economic utilisation of technology in the sharing of cultural products and events

- Ability to utilise digital solutions
- Public speaking skills
- Development and management of personal competence
- Innovation skills
- Self-regulation
- Knowledge of the principles of sustainable development
- Creativity
- Multiprofessional skills
- Multicultural skills
- Multitalentedness
- Pressure tolerance
- Process competence
- Commitment
- Stress tolerance
- Network, partnership and stakeholder skills
- Interaction and communication skills
- Information evaluation skills
- Knowledge of copyrights and licences
- Digital information sharing skills

Finnish National Agency for Education, oph.fi/oefoorumi
Traffic and logistics
Trade and repair of motor vehicles 2035

Growing skills needs

Generic and working life skills

- seeing the big picture
- organisation skills
- problem-solving skills
- ability to learn
- self-regulation
- determination
- pressure tolerance
- ability to react quickly
- ethicality
- public speaking skills
- service design skills
- creation of added value

Basic digital skills

- information searching skills
- information management skills
- ability to develop digital content
- skills related to the re-refining and integration of digital content
- knowledge of copyrights and licences
- skills related to the protection of digital tools and content
- ability to identify digital skills gaps
- digital information sharing skills
- digital communication skills
- digital co-operation skills
- skills related to the protection of physical and mental health against risks associated with digital environments and technology
- skills related to the protection of personal data and privacy
- information evaluation skills
- skills related to the solving of technical problems
- programming skills
- ability to use digital technology creatively
- ability to apply digital tools
- understanding of digital technology and the environmental impact of its use
- netiquette
- active digital citizenship

I Finnish National Agency for Education, oph.fi/oefoorumi

Key skills needs

- Service design and creation of added value
- People and competence management and coaching skills
- Innovation skills
- Leadership skills
- Seeing the big picture
- Conflict resolution skills
- Skills related to the management and control of digital operations
- Ability to use digital technology creatively
- Ability to apply digital tools
- Programming skills
- Management of remote and virtual services
- Development and management of personal competence
- Ability to learn
- Multiprofessional skills
Traffic 2035
Growing skills needs

Generic and working life skills
- automation management skills
- ability to use robotics technology
- ability to utilise digital platforms
- multitalentedness
- multiprofessional skills
- seeing the big picture
- co-operation skills
- interaction and communication skills
- customer service skills
- problem-solving skills
- skills in customer-oriented development of services
- knowledge of the principles of sustainable development

Basic digital skills
- identification and management of cyber threats
- understanding of digital technology and the environmental impact of its use
- skills related to the protection of personal data and privacy
- information evaluation skills
- information searching skills
- digital co-operation skills
- ability to use digital technology creatively
- ability to apply digital tools

Information and communication skills
- development and management of personal competence
- creativity – ability to see things from new perspectives and built something new, original and well-functioning on the basis of them
- time management skills
- change process skills
- management of remote and virtual services
- ability to learn

Information evaluation skills
- information searching skills
- Seeing the big picture
- Problem-solving skills
- Ability to learn
- Automation management skills
- Ability to utilise digital solutions
- Skills in customer-oriented development of services
- Co-operation skills
- Interaction and communication skills
- Environmental skills
- Identification and management of cyber threats

1 Finnish National Agency for Education, oph.fi/oefoorumi
Warehousing and postal activities 2035

Growing skills needs

Generic and working life skills

- information management and analysis skills
- innovation skills
- flexibility
- ability to react quickly
- leadership skills
- ability to inspire and motivate
- skills related to the management and control of digital operations
- ability to utilise digital solutions
- customer service skills
- skills in customer-oriented development of services
- time management skills
- conflict resolution skills

Basic digital skills

- information evaluation skills
- skills related to the protection of digital tools and content
- digital identity management skills
- information searching skills
- ability to develop digital content
- skills related to the re-refining and integration of digital content
- digital communication skills
- network and partnership skills in digital operating environments
- digital information sharing skills
- information management skills
- skills related to the solving of technical problems

- problem-solving skills
- creativity
- multitalentedness
- multiprofessional skills
- seeing the big picture
- people and competence management and coaching skills
- development and management of personal competence
- ability to learn
- cost management
- automation management skills

Key skills needs

- Analytical thinking skills
- Seeing the big picture
- Multitalentedness
- Change process skills
- Automation management skills
- Skills related to the management and control of digital operations
- Knowledge of the principles of sustainable development
- Manual skills
- Quality management skills
- Pressure tolerance
- Ability to react quickly
- Time management skills
- Skills in customer-oriented development of services
- Network, partnership and stakeholder skills
- Network and partnership skills in digital operating environments

I Finnish National Agency for Education, oph.fi/oefoorumi
Accommodation, food, beverage and tourism services
Accommodation 2035

Growing skills needs

Generic and working life skills
- ability to utilise digital solutions
- network, partnership and stakeholder skills
- sales skills
- customer service skills
- knowledge of the principles of sustainable development
- skills related to the management and control of digital operations
- co-operation skills
- interaction and communication skills

Basic digital skills
- skills related to the re-refining and integration of digital content
- digital communication skills
- digital identity management skills
- information management skills
- digital information sharing skills
- information evaluation skills
- netiquette
- active digital citizenship
- skills related to the protection of personal data and privacy
- ability to develop digital content

Problem-solving skills
- multicultural skills

Artisanal and experience creation skills
- Customer service skills
- Skills related to the re-refining and integration of digital content
- Skills related to the management and control of digital operations
- Ability to apply digital tools
- Innovation skills
- Critical thinking skills
- Multicultural skills
- Change process skills
- Sales skills
- Information evaluation skills
- Oral and written ability to express information
- Work ability skills, life management
- Interaction and communication skills

1 Finnish National Agency for Education, oph.fi/oefoorumi
Travel agency and tour operator activities 2035

Growing skills needs

Generic and working life skills
- ability to learn
- flexibility
- self-regulation
- ability to utilise digital solutions
- ability to utilise digital platforms
- ability to use robotics technology
- skills related to the management and control of digital operations
- automation management skills
- innovation skills
- management of remote and virtual services
- creativity
- seeing the big picture
- knowledge of the principles of sustainable development
- ability to inspire and motivate

Basic digital skills
- ability to use digital technology creatively
- ability to develop digital content
- digital information sharing skills
- ability to apply digital tools
- skills related to the re-refining and integration of digital content
- digital identity management skills
- digital co-operation skills
- information evaluation skills
- ability to identify digital skills gaps
- information management skills
- understanding of digital technology and the environmental impact of its use
Food service activities 2035
Growing skills needs

Generic and working life skills
• skills related to the management and control of digital operations
• skills in customer-oriented development of services
• multiprofessional skills
• self-regulation
• customer service skills
• time management skills

• stress tolerance
• pressure tolerance
• problem-solving skills
• creativity
• business skills
• ability to utilise digital solutions
• ability to utilise digital platforms

Basic digital skills
• information evaluation skills
• skills related to the protection of personal data and privacy
• skills related to the re-refining and integration of digital content
• ability to apply digital tools
• digital co-operation skills
• information management skills
• digital communication skills
• digital identity management skills
• digital information sharing skills
• ability to develop digital content

Key skills needs
• Skills in customer-oriented development of services
• Skills related to the management and control of digital operations
• Multiprofessional skills
• Information management skills
• Time management skills
• Pressure tolerance
• Information evaluation skills
• Ability to apply digital tools
• Counselling, guidance and management skills
• Self-regulation
• Customer service skills
• Digital communication skills
• Problem-solving skills
• Cost management
• Seeing the big picture
• Ability to learn

1 Finnish National Agency for Education, oph.fi/oefoorumi
Built environment
Construction and design of buildings 2035

Growing skills needs

Generic and working life skills

- ability to utilise digital solutions
- user orientation
- ability to utilise digital platforms
- skills related to the management and control of digital operations
- skills in customer-oriented development of services
- knowledge of the principles of sustainable development
- automation management skills
- problem-solving skills
- ability and willingness to learn
- information management and analysis skills
- customer service skills
- group work skills
- innovation skills

Basic digital skills

- ability to apply digital tools
- information searching skills
- skills related to the protection of digital tools and content
- information evaluation skills
- information management skills
- ability to use digital technology creatively
- ability to identify digital skills gaps

Finnish National Agency for Education, oph.fi/oefoorumi
Civil engineering 2035

Growing skills needs

Generic and working life skills

- ability to utilise digital solutions
- user orientation
- ability to utilise digital platforms
- skills related to the management and control of digital operations
- skills in customer-oriented development of services
- knowledge of the principles of sustainable development
- automation management skills
- problem-solving skills
- ability and willingness to learn
- information management and analysis skills
- customer service skills
- Group work skills
- Innovation skills

Basic digital skills

- ability to apply digital tools
- information searching skills
- skills related to the protection of digital tools and content
- information evaluation skills
- information management skills
- ability to use digital technology creatively
- ability to identify digital skills gaps

Key skills needs

- Ability to utilise digital solutions
- Skills in customer-oriented development of services
- User orientation
- Ability to utilise digital platforms
- Skills related to the management and control of digital operations
- Knowledge of the principles of sustainable development
- Seeing the big picture
- Multicultural and internationality skills
- Development and management of personal competence
- Ability to apply digital tools
- Information searching skills
- Skills related to the protection of digital tools and content
- Information evaluation skills
- Information management skills
- Ability to use digital technology creatively

Finnish National Agency for Education, oph.fi/oefoorumi
Real estate activities 2035

Growing skills needs

Generic and working life skills

- skills in customer-oriented development of services
- environmental skills
- management of remote and virtual services
- interaction and communication skills
- ability to utilise digital platforms
- multicultural skills
- ability to learn
- conflict resolution skills
- sense of responsibility
- skills related to professional ethics
- leadership skills
- counselling, guidance and management skills

Basic digital skills

- active digital citizenship
- ability to use digital technology creatively
- digital communication skills
- digital co-operation skills
- ability to identify digital skills gaps
- ability to apply digital tools
- skills related to the protection of physical and mental health against risks associated with digital environments and technology
- skills related to the protection of personal data and privacy

Finnish National Agency for Education, oph.fi/oefoorumi
Public utility services and waste management 2035

Growing skills needs

Generic and working life skills

- self-regulation
- skills in customer-oriented development of services
- ability to utilise digital solutions
- innovation skills
- system integration skills
- seeing the big picture
- creativity
- ability to learn group work skills
- interaction and communication skills
- co-operation skills
- multiprofessional skills
- project management skills
- ability to use robotics technology

Basic digital skills

- system integration skills
- ability to develop digital content
- ability to use digital technology creatively
- digital co-operation skills
- information evaluation skills
- digital communication skills
- ability to identify digital skills gaps
- understanding of digital technology and the environmental impact of its use
- ability to apply digital tools

Finnish National Agency for Education, oph.fi/oefoorumi
Social, health and well-being services
Health services 2035

Growing skills needs

Generic and working life skills

- co-operation skills
- customer service skills
- ethicality
- skills in customer-oriented development of services
- interaction and communication skills
- management of remote and virtual services
- ability to utilise digital solutions
- ability to utilise digital platforms
- time management skills

- network, partnership and stakeholder skills
- group work skills

Basic digital skills

- skills related to the protection of physical and mental health against risks associated with digital environments and technology
- skills related to the protection of personal data and privacy
- digital communication skills
- digital co-operation skills
- information management skills
- skills related to the re-refining and integration of digital content
- information evaluation skills
- digital information sharing skills
- ability to develop digital content
- active digital citizenship

- Management of remote and virtual services
- Multicultural and tolerance skills
- Knowledge of the principles of sustainable development
- Co-operation skills
- Interaction and communication skills
- Skills in customer-oriented development of services
- Ethicality
- Emotional intelligence
- Digital communication skills
- Skills related to the protection of personal data and privacy
- Active digital citizenship
- Information management skills
- Digital co-operation skills
- Skills related to the protection of physical and mental health against risks associated with digital environments and technology
- Understanding of digital technology and the environmental impact of its use

Finnish National Agency for Education, oph.fi/oefoorumi
Social services 2035

Growing skills needs

Generic and working life skills
- management of remote and virtual services
- skills in customer-oriented development of services
- extensive knowledge and management of well-being technology
- skills related to well-being at work
- development and management of personal competence
- skills related to the management and control of digital operations
- ability to utilise digital solutions
- ability to utilise digital platforms
- ability to use robotics technology
- environmental skills
- ability to react quickly
- pressure tolerance
- ability to learn
- multicultural skills
- self-regulation
- public speaking skills
- time management skills

Basic digital skills
- skills related to the protection of personal data and privacy
- digital information sharing skills
- digital communication skills
- ability to identify digital skills gaps
- active digital citizenship
- information evaluation skills
- information searching skills
- digital co-operation skills

Key skills needs
- Skills in customer-oriented development of services
- Extensive knowledge and management of well-being technology
- Digital communication skills
- Ability to learn
- Pressure tolerance
- Flexibility
- Creativity
- Multitalentedness
- Skills related to professional ethics
- Multiprofessional skills
- Interaction and communication skills
- Social skills

Finnish National Agency for Education, oph.fi/oefoorumi
Personal, sports and recreational services 2035

Growing skills needs

Generic and working life skills

- skills in customer-oriented development of services
- network, partnership and stakeholder skills
- ability to react quickly
- problem-solving skills
- multitalentedness
- innovation skills
- ability to utilise digital solutions
- ability to utilise digital platforms
- time management skills
- customer service skills
- people and competence management and coaching skills

Basic digital skills

- skills related to the protection of personal data and privacy
- ability to apply digital tools
- digital information sharing skills
- digital communication skills
- information management skills
- information evaluation skills
- information searching skills
- skills related to the re-refining and integration of digital content
- ability to develop digital content
- digital identity management skills
- digital co-operation skills
- knowledge of copyrights and licences

- development and management of personal competence
- skills related to the management and control of digital operations

Key skills needs

- Ability to utilise digital solutions
- Ability to inspire and motivate
- Skills in customer-oriented development of services
- Customer service skills
- Development and management of personal competence
- People and competence management and coaching skills
- Information management and analysis skills
- Ability to apply digital tools
- Digital communication skills
- Skills related to the protection of personal data and privacy
- Innovation skills
- Knowledge of copyrights and licences
- Information evaluation skills
- Digital identity management skills
- Information searching skills

1 Finnish National Agency for Education, oph.fi/oefoorumi
Technology industries and services
Mining of ores and refining of metals 2035

Growing skills needs

Generic and working life skills

- knowledge of the principles of sustainable development
- environmental skills
- automation management skills
- ability to use robotics technology
- ability to inspire and motivate
- seeing the big picture
- creativity (ability to see things from new perspectives and built something new, original and well-functioning on the basis of them)
- ability to learn
- organisation skills
- ability to react quickly
- conflict resolution skills
- group work skills
- stress tolerance
- sense of responsibility
- interaction and communication skills
- co-operation skills
- management of remote and virtual services
- people and competence management and coaching skills
- leadership skills
- quality management skills
- multiprofessional skills
- process competence

Basic digital skills

- understanding of digital technology and the environmental impact of its use
- digital communication skills
- ability to apply digital tools
- information evaluation skills
- information searching skills

Key changes in skills needs

- Management of GPS and positioning data systems
- Ability to apply digital tools
- Machinery and equipment repair and maintenance skills
- Mechanical control (2D and 3D skills)
- Digital information sharing skills
- Multiprofessional skills
- Problem-solving skills
- Processing competence
- Occupational safety skills
- Programming skills
- Skills related to the solving of technical problems
- Ability to use digital technology creatively
- Automation technology and electrical engineering skills
- Development of energy efficiency and economic efficiency
- Development and management of personal competence

*The mining industry skills that will change most by 2025.

Finnish National Agency for Education, oph.fi/oefoorumi
Manufacture of electrical and electronic equipment 2035

Growing skills needs

Generic and working life skills

- ability to utilise digital solutions
- creativity
- ability to learn (in the workshop, the change was estimated to be bigger than what the survey results indicated)
- ability to use robotics technology (as above)
- analytical thinking skills
- skills in customer-oriented development of services
- A) automation management skills and B) ability to utilise digital platforms
- skills related to the management and control of digital operations
- ability to inspire and motivate
- innovation skills
- seeing the big picture
- change process skills
- A) automation management skills and B) ability to utilise digital platforms

Basic digital skills

- information evaluation skills
- information searching skills
- ability to develop digital content
- ability to use digital technology creatively
- digital communication skills
- digital co-operation skills
- ability to identify digital skills gaps
- ability to apply digital tools
- digital information sharing skills
- skills related to the re-refining and integration of digital content
- programming skills
- skills related to the solving of technical problems
- skills related to the protection of digital tools and content

- digital identity management skills

- programming skills

- business skills and understanding of revenue logic

- operating in compliance with the principles of sustainable development

Key skills needs

- utilisation of digital solutions
- creativity and innovation skills
- skills in customer-oriented development of services and customer service skills
- ability to utilise digital platforms, skills related to the management and control of digital operations and ability to utilise digital solutions
- ability to learn
- problem-solving skills
- occupational safety
- management of remote and virtual services
- network, partnership and co-operation skills
- manual skills, dexterity and preciseness
- information searching and evaluation skills
- digital co-operation skills and digital communication skills
- digital identity management and protection skills (tools and content)
- business skills and understanding of revenue logic
- operating in compliance with the principles of sustainable development

Finnish National Agency for Education, oph.fi/oefoorumi
Manufacture of metal products, machinery and vehicles 2035

Growing skills needs

Generic and working life skills

- ability to use robotics technology
- ability to utilise digital platforms
- ability to utilise digital solutions
- management of remote and virtual services
- innovation skills
- leadership skills
- sales skills
- environmental skills
- customer service skills
- business skills
- multicultural skills
- diagnostics, repair and maintenance management over a remote connection
- skills in customer-oriented development of services
- automation management skills
- skills related to the management and control of digital operations

Basic digital skills

- information evaluation skills
- information searching skills
- diagnostics, repair and maintenance management over a remote connection
- digital communication skills
- ability to apply digital tools
- skills related to the solving of technical problems
- information management skills
- ability to use digital technology creatively
- digital co-operation skills
- netiquette

Finnish National Agency for Education, oph.fi/oefoorumi
Growing skills needs

Generic and working life skills

- multicultural skills
- development and management of personal competence
- multiprofessional skills
- ethicality
- ability to utilise digital solutions
- ability to learn
- co-operation skills
- automation management skills
- network, partnership and stakeholder skills
- time management skills

Basic digital skills

- digital service development skills, design skills (conversion of user needs into software)
- skills related to the protection of personal data and privacy
- information evaluation skills
- digital identity management skills
- skills related to the protection of digital tools and content
- digital information sharing skills
- digital communication skills
- ability to identify digital skills gaps
- information searching skills
- overall system management
- information security skills

- information management and analysis skills
- skills in customer-oriented development of services
- management of remote and virtual services
- change process skills
- ability to use robotics technology

- understanding of digital technology and the environmental impact of its use

Key skills needs

- Ability to utilise digital platforms
- Network, partnership and stakeholder skills
- Skills in customer-oriented development of services
- Development and management of personal competence
- Analytical thinking skills
- Problem-solving skills
- Interaction and communication skills
- Seeing the big picture
- Knowledge of the principles of sustainable development
- People and competence management and coaching skills
- Environmental skills
- Skills related to the protection of digital tools and content
- Information searching skills
- Programming skills
- Skills related to the solving of technical problems

Finnish National Agency for Education, oph.fi/oeforum
Process industry and manufacturing
Manufacture of clothes and textiles 2035

Growing skills needs

Generic and working life skills

- Development and management of personal competence
- Environmental skills (sustainable development and environmental awareness, will determine planning and development in the future)
- Creativity
- Knowledge of the principles of sustainable development
- Ability to utilise digital solutions
- Ethicality
- Time management skills
- Skills in customer-oriented development of services
- Multiprofessional skills

Basic digital skills

- Understanding of digital technology and the environmental impact of its use
- Skills related to the protection of physical and mental health against risks associated with digital environments and technology
- Ability to use digital technology creatively
- Information evaluation skills
- Information management skills
- Digital communication skills
- Digital information sharing skills
- Skills related to the protection of digital tools and content
- Ability to apply digital tools

- Customer service skills
- Ability to utilise digital platforms
- Management of remote and virtual services
- Multicultural skills
- Ability to react quickly
- Automation management skills
- Skills related to the management and control of digital operations
- Flexibility
- Seeing the big picture
- Multitalentedness
- Change process skills

Key skills needs

- Creativity
- Knowledge of the principles of sustainable development
- Environmental skills
- Manual skills
- Ability to utilise digital solutions
- Ethicality
- Ability to use digital technology creatively
- Development and management of personal competence
- Ability to use robotics technology
- Skills related to the protection of physical and mental health against risks associated with digital environments and technology
- Dexterity

Finnish National Agency for Education, oph.fi/oefoorumi
Manufacture of paper and sawn timber 2035

Growing skills needs

Generic and working life skills

- problem-solving skills
- ability to learn
- ability to utilise digital solutions
- ability to utilise digital platforms
- management of remote and virtual services
- multitaledness
- multiprofessional skills
- ability to use robotics technology
- self-regulation
- automation management skills

- analytical thinking skills
- skills related to the management and control of digital operations
- time management skills
- skills in customer-oriented development of services
- development and management of personal competence
- innovation skills

Basic digital skills

- information evaluation skills
- information searching skills
- skills related to the solving of technical problems
- ability to apply digital tools
- understanding of digital technology and the environmental impact of its use
- information management skills
- digital information sharing skills
- ability to use digital technology creatively
- digital communication skills
- ability to develop digital content
- skills related to the re-refining and integration of digital content

- skills related to the protection of personal data and privacy
- digital identity management skills
- understanding of programming logic

Key skills needs

- Information evaluation skills
- Ability to apply digital tools
- Information searching skills
- Digital co-operation skills
- Understanding of programming logic
- Ability to utilise digital solutions and platforms
- Self-regulation
- Automation management skills
- Multitalentedness
- Problem-solving skills
- Ability to learn
- Multicultural skills
- Knowledge of the principles of sustainable development
- Occupational safety skills
- Sales and marketing skills

Finnish National Agency for Education, oph.fi/oefoorumi
Manufacture of chemical products 2035

Growing skills needs

Generic and working life skills

- artificial intelligence skills
- information management and analysis skills
- automation management skills
- ability to utilise digital platforms
- ability to utilise digital solutions
- skills related to the management and control of digital operations
- self-regulation
- flexibility
- change process skills

Basic digital skills

- information searching skills
- ability to identify digital skills gaps
- information evaluation skills
- information management skills
- digital identity management skills
- ability to use digital technology creatively
- digital communication skills
- digital information sharing skills
- ability to develop digital content
- skills related to the protection of digital tools and content and to the protection of personal data and privacy
- skills related to the protection of physical and mental health against risks associated with digital environments and technology

- problem-solving skills
- business skills
- creativity
- marketing skills
- ability to learn
- pressure tolerance
- ability to use robotics technology
- entrepreneurship skills

Key skills needs

- Process competence
- Safety skills
- Knowledge of the principles of sustainable development, environmental skills

- People and competence management and coaching skills
- Ability to learn
- Counselling, management and guidance and leadership coaching skills
- Co-operation and social skills
- Information management and analysis skills
- Programming skills (application; planning, development and use)
- Digital ethicality
- Multicultural skills
- Artificial intelligence skills
- Problem-solving skills and self-regulation

Finnish National Agency for Education, oph.fi/oefoorumi
Manufacture of furniture and other manufacturing* 2035

Growing skills needs

Generic and working life skills

- multitalentedness
- ability to learn
- counselling, guidance and management skills
- skills in customer-oriented development of services
- automation management skills
- ability to utilise digital platforms
- ability to utilise digital solutions
- skills related to the management and control of digital operations
- knowledge of the principles of sustainable development
- sales skills
- ability to use robotics technology

Basic digital skills

- ability to identify digital skills gaps
- information searching skills
- information evaluation skills
- information management skills
- programming skills
- understanding of digital technology and the environmental impact of its use
- skills related to the solving of technical problems
- ability to apply digital tools

Finnish National Agency for Education, oph.fi/oefoorumi

*incl. manufacture of bijouterie, musical instruments, sports goods, games and toys, medical and dental instruments and safety equipment