

Curriculum in building and construction

This is a translation from Norwegian Bokmål of the official Norwegian subject curriculum text.

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About the subject

Relevance and central values

Vg1 building and construction focuses on developing basic competence within building, and the maintenance of buildings, installations, roads, water and drainage infrastructure and other infrastructure. The programme subjects shall also give the pupils competence in using digital tools and assessing how environmental and climate change impacts the building and construction trade. Further, the programme subjects shall contribute to the pupils' compliance with regulatory requirements when using products, and carrying out building and construction work.

All subjects are designed to help give pupils a strong foundation for learning. The programme subjects shall help with further knowledge about the history of the building and construction trade, develop cultural heritage and create solutions for tomorrow. Further, the programme subjects shall contribute to sustainable resource management. Vg1 building and construction shall contribute to knowledge of how social partners cooperate to develop a better workplace.

Core elements

Building and construction

The core element of building and construction involves the building construction process from planning and sketching to building, quality control, and maintenance of buildings and installations. This includes using drawings and work descriptions for one's own work and in communication with clients and cooperation partners. Further, it addresses different building customs and traditions, and how these impact building and construction. The core element involves using technical language, unambiguous communication, and technological development by using tools for different purposes.

Materials and tools

The core element materials and tools involves the characteristics and area of application of materials and tools, and how the choice of tools and materials impacts the climate, environment and economics. This includes assessing the choice of tools and materials based on the frameworks and purpose of the assignment. Further, the core element involves following waste sorting guidelines and understanding the consequences of incorrect management.

Injury and accident prevention

The core element injury and accident prevention involves health, safety and environment and how it forms the basis for all practical work assignments in the trade. It involves assessing risks attached to work carried out in the building and construction trade, and implementing various measures to prevent injury and accidents. This includes understanding and following safety instructions and rules for using tools, machinery, chemicals, materials, and wearing the right personal protection equipment. Further, this involves following ergonomic principles in occupational practice and quality assuring one's own work.

Interdisciplinary topics

Democracy and citizenship

In vg1 building and construction, the interdisciplinary topic of democracy and citizenship addresses the development of knowledge and understanding about cultural heritage and different building traditions. The ability to cooperate across subjects and occupational groups, and understand democratic processes in the workplace are also included in the topic of democracy and citizenship. Further, it includes identity development and awareness of what society expects from a professional.

Sustainability

In vg1 building and construction, the interdisciplinary topic of sustainable development involves choosing sustainable solutions with a small footprint. Further, it includes choosing materials based on environmental considerations and using materials that provide energy-efficient constructions. Sustainable development also concerns climate and environmental footprints when using machinery and equipment, maintenance, and reusing and recycling materials, machinery and tools.

Basic skills

Oral skills

Oral skills in vg1 building and construction involve using technical expressions and communicating in a comprehensible manner with colleagues and cooperation partners. They include adapting one's own language to recipients, content and purpose, and listening and showing respect for the person talking.

Writing

Writing in vg1 building and construction involves being able to plan and document work processes. This involves being able to speak in a comprehensible way about building topics. Further, it involves being able to use precise technical language and adapt texts for various purposes, recipients and media. It also involves being able to combine various forms of expression, such as texts, images and symbols in descriptions and on blueprints.

Reading

Reading in vg1 building and construction involves being able to acquire new knowledge and insight. Further, it involves understanding technical literature, regulations, specifications, product descriptions and work descriptions related to building and construction.

Numeracy

Numeracy in vg1 building and construction involves being able to calculate time, prices, weight, volume, quantity, size and mass. Further, it involves being able to use scales, measurements and to calculate angles in constructions.

Digital skills

Digital skills in vg1 building and construction involve being able to use digital resources in a responsible and appropriate manner. Further, they involve being able to use digital resources, and to communicate and collaborate with others. Digital skills also involve critically assessing information from digital sources, using netiquette and developing digital judgement.

Competence aims and assessment

Competence aims and assessment working environment and documentation

Competence aims after working environment and documentation

The pupil is expected to be able to

- assess risks and implement prevention measures
- carry out and document work in compliance with applicable provisions relating to health, safety and environment, and report undesired events
- carry out lifesaving first aid

- explain hot work that causes fire, implement safety measures and prevent fire
- use safety datasheets and following instructions when using chemicals
- describe and use work techniques and work positions that prevent injuries
- explain the meaning of orderliness on building and construction sites and follow the related routines
- assess risks and follow routines for strapping, hooking and giving signals when loading and unloading
- plan, carry out, assess and document their own work
- maintain machinery and tools
- sort waste according to given guidelines and reflect on the consequences of incorrect waste management
- communicate and convey messages adapted to different target groups
- understand and use technical terminology when interacting with different target groups
- assess how environmental and climate change impact the building and construction industry
- explain and assess how social partners cooperate to develop a better workplace

Formative assessment

The formative assessment should help promote learning and the development of competence. The pupils demonstrate and develop competence in working environment and documentation when they use knowledge, skills and critical thinking to solve assignments in the programme subjects.

The teacher facilitates pupil participation and encourages the desire to learn through a variety of assignments. The teacher can give assignments that cover multiple or all the programme subjects. The teacher shall have conversations with the pupil regarding their development within working environment and documentation. The pupils shall have the opportunity to express what they believe they can accomplish and reflect on their own academic development. The teacher provides guidance on further learning and adapts the education to enable the pupils to use the guidance provided to develop their competence in the programme subject.

Assessment of coursework

The grades awarded for coursework reflect the overall competence of the pupil in working environment and documentation at the end of the education in the programme subject. The teacher plans and facilitates the pupils in demonstrating their competence in various ways. Using the competence aims as a starting point, the teacher shall assess how the pupil demonstrates

understanding, reflection and critical thinking, and how the pupil masters challenges and solves assignments in various contexts. The teacher awards grades in working environment and documentation based on the competence the pupil has demonstrated by planning, completing, assessing and documenting their own academic work.

Competence aims and assessment occupational practice

Competence after occupational practice

The pupil is expected to be able to

- understand and work in accordance with drawings and descriptions
- draw sketches and constructions by scale
- choose and use machinery and tools for different types of work assignments and following the instructions for use and management
- assemble and use work platforms up to five metres high, and carry risk prevention measures when working at height
- choose and use personal protective equipment and assess the consequences of incorrect use
- choose and use materials taking into account sustainability and different building traditions
- store, calculate and treat materials in an environmentally friendly, professional and financially viable way
- use digital resources to calculate, measure and label in line with descriptions and drawings
- use 3D modelling during assignments
- explore and present hallmarks of cultural heritage and building customs
- plan and build a construction
- describe what is required and expected of a professional and reflect on their own practices

Formative assessment

The formative assessment should help promote learning and the development of competence. The pupils demonstrate and develop competence in occupational practice when they use knowledge, skills and critical thinking to solve assignments in the programme subjects.

The teacher facilitates pupil participation and encourages the desire to learn through a variety of assignments. The teacher can give assignments that cover multiple or all the programme subjects. The teacher shall have conversations with the pupil regarding their development within occupational practice. The pupils shall have the opportunity to express what they believe they can accomplish and reflect on their own academic development. The teacher provides guidance on further learning and adapts the education to

enable the pupils to use the guidance provided to develop their competence in the programme subject.

Assessment of coursework

The grades awarded for coursework reflect the overall competence of the pupil in occupational practice at the end of the education in the programme subject. The teacher plans and facilitates the pupils in demonstrating their competence in various ways. Using the competence aims as a starting point, the teacher shall assess how the pupil demonstrates understanding, reflection and critical thinking, and how the pupil masters challenges and solves assignments in various contexts. The teacher awards grades in occupational practice based on the competence the pupil has demonstrated by planning, completing, assessing and documenting their own academic work.

Type of assessment

Assessment of coursework

Working environment and documentation: The pupils shall have one grade awarded for coursework.

Occupational practice: The pupils shall have one grade awarded for coursework.

Examination for pupils

Working environment and documentation: The pupils shall not sit for an examination.

Occupational practice: The pupils shall not sit for an examination.

Examination for external candidates

Working environment and documentation: External candidates shall sit for a written examination in the programme subject. The examination will be prepared and graded locally. The county council decides whether the local examination for external candidates will have a preparatory part.

Occupational practice: External candidates shall sit for a written examination in the programme subject. The examination will be prepared and graded

locally. The county council decides whether the local examination for external candidates will have a preparatory part.

Working environment and documentation, and occupational practice: External candidates shall take an interdisciplinary practical examination in these programme subjects. The examination will be prepared and graded locally. The county council decides whether the local examination for external candidates will include a preparatory part.