Curriculum, subjects, number of hours

According to the new Education Act, the teaching is based on the curricular documents of two levels – framework educational programmes, issued by the Ministry of Education, Youth and Sports [1], and school educational programmes, prepared by individual schools. The framework educational programmes were developed by the Research Institute of Education (courses of secondary general school – gymnázium and one-year and two-year practical school – praktická škola) and the National Institute of Technical and Vocational Education (vocational courses), which became part of the newly established National Institute for Education [2] in 2011. At present, most pupils are already being educated according to the new education programmes (for more information on the reform see the section System of curricular documents [3] in Chapter 2).

The development of the FEP is closely connected to the reform of the system of fields. The number of fields was significantly reduced (for example: The original 90 educational fields focused on individual aspects of business and management or different economic sectors were replaced by one field – Economy and business). During this reduction, the links between the fields and the labour market as well as the National Qualifications Framework (see National Qualifications Framework [4] in Chapter 2) were taken into account. The new fields have wider specialisation and there is one FEP prepared for each of them. The schools can profile themselves and can create more specialisations within the given field in the SEP.

The study fields are subdivided into several categories:

Courses of the secondary education with the school-leaving examination (střední vzdělání s maturitní zkouškou) (ISCED 344 and 354) include:

- K category – general courses completed by the school-leaving examination – four-year general schools (ISCED 344) and multi-year general schools (ISCED 244+344)

- M category – traditional vocational courses completed by the school-leaving examination (ISCED 354)
- the M category includes also courses of the lyceum branch, which provide vocational education with higher proportion of general education and prepare primarily to tertiary education in given specialisation (ISCED 344): Technical Lyceum, Economics Lyceum, Pedagogical Lyceum, Health Care Lyceum, Science Lyceum, Combined Lyceum, Military lyceum

- L category – courses, where practical training is part of the education (ISCED 354)

Courses of the **secondary education with the apprenticeship certificate** (*střední vzdělání s výučním lístěm*) (ISCED 353) include:

- H category – three-year vocational courses

- E category – less demanding two- or three-year vocational courses intended primarily for pupils with special educational needs (e.g. including pupils who ended the compulsory school attendance in lower than 9th year of basic school)

Courses of the **secondary education** (*střední vzdělání*) include:

- J category (ISCED 353) – less demanding two-year vocational courses

- C category (ISCED 253) – one-year and two-year practical school courses (*praktická škola*), intended for pupils with moderate and severe mental disabilities, autism or multiple disabilities (for more information see [Curriculum, subjects](#) in Chapter 12)

In international comparisons the **lyceums fields** of study of lyceums are also considered also as general education. The concept of framework educational programmes for lyceums fields of study of lyceums corresponds to vocational education that is why details on lyceum fields of study of lyceum are included in the section [Vocational education](#).

### General education

The Framework Educational Programme for Secondary General Education (FEP SGE) and Framework Educational Programme for Sports Training Secondary General Schools, designed for four-year general secondary schools (*gymnázia*) and upper level of multi-year general secondary schools (*víceletá gymnázia*) (ISCED 344), were published in August 2007. On the basis of this programme, each school prepared its own school educational programme (SEP) and began to teach according to it, starting with the first grades from 2009/10 at the latest. At present, the instruction is carried out according to the SEPs in all grades. At the same time, the number of the secondary general courses has been reduced. The SEP should respect the concrete needs of the school and its pupils and enable
Apart from the general secondary school (gymnázium) branch, another branch of general secondary schools remained – the Sports Training Secondary General Schools. The general part of the Framework Educational Programme for Sports Training General Secondary Schools is identical with the Framework Educational Programme for Secondary General Education, and the specific part has been prepared in collaboration with the Association of School Heads of Sports Training Secondary General Schools (Asociace ředitelů gymnázií se sportovní přípravou), thus with the school heads and teachers of these secondary general schools. In total, 64 teaching hours are devoted to physical education and sports training which means that the total compulsory number of teaching hours during studies is 184 and concurrently the number of lessons per week in one grade is 46.

For the lower level of multi-year general secondary schools (víceletá gymnázia) (ISCED 244), the Framework Educational Programme for Basic Education is the binding document (see Curriculum, subjects, number of hours [6] in Chapter 5). Nevertheless, the multi-year general secondary schools have the possibility to create one school educational programme for the whole period of six or eight years of education, or they can create two separate SEPs, one for the lower and one for the higher level of education.

The new Framework Educational Programme for Bilingual General Secondary Schools will be binding for bilingual six-year general secondary schools (dvojjazyčná gymnázia) from 2016, for more details see Language education.

In international comparisons the lyceums fields of study are also considered as general education. The concept of framework educational programmes for lyceums fields of study corresponds to vocational education that is why details on lyceum fields of study are included in the section Vocational education.

**Legislation and Bibliography:**

- Education Act [7]
- Framework Educational Programme for Basic Education [8]
- Framework Educational Programme for Bilingual Secondary General School [9]
- Framework Educational Programme for Secondary General Education [10]
• the concept and objectives of secondary general education

• key competences which should be acquired by pupils

• educational areas and cross-curricular themes

• a framework curriculum timetable

• rules to design the school educational programme (SEP)

• conditions of education of pupils with special educational needs (i.e. pupils who for the fulfillment of their educational opportunities or for exercising or using their rights on the equal basis with others need provision of supporting measures – for more information see Special Care within the Mainstream Education);

• conditions of education of exceptionally gifted pupils

• material, personnel and educational-psychological conditions, conditions of safety and mental hygiene and manual labour hygiene, psycho-social conditions and organisational and management conditions of secondary general education

FEP SGE sets the following **key competencies**:

• learning competencies

• problem solving competencies

• communication competencies

• social and personal competencies

• civic competencies

• entrepreneurship competencies

Each of the eight **educational areas** (see framework curriculum timetable for secondary general schools) has its characteristic, objectives and content of education (expected outcomes and subject
Each area is divided into one or more educational courses. For cross-curricular themes the characteristic, the contribution to pupil's personal development and the thematic fields are set. The main emphasis is on educational outcomes. The expected pupils' key competencies are now defined. Close attention is also paid to pupils' systems of values and their personal and social development, which the cross-curricular themes should primarily contribute to.

Following **cross-curricular themes** are incorporated into teaching:

- Personal and social education
- Education towards thinking in the European and global contexts
- Multicultural education
- Environmental education
- Media studies

### Framework Curriculum Timetable for General Secondary Schools

<table>
<thead>
<tr>
<th>Educational area</th>
<th>Educational field</th>
<th>Total number of teaching hours during the study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language and language communication</strong></td>
<td>Czech language and literature</td>
<td>12 obligatory in each grade</td>
</tr>
<tr>
<td></td>
<td>Foreign language 1(^{(1)})</td>
<td>12 obligatory in each grade</td>
</tr>
<tr>
<td></td>
<td>Foreign language 2(^{(1)})</td>
<td>12 obligatory in each grade</td>
</tr>
<tr>
<td><strong>Mathematics and its applications</strong></td>
<td></td>
<td>10 obligatory in grades 1 to 3</td>
</tr>
<tr>
<td><strong>People and nature</strong></td>
<td>Physics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Geography(^{(2)})</td>
<td>36 obligatory in grades 1 to 2</td>
</tr>
<tr>
<td></td>
<td>Geology</td>
<td></td>
</tr>
<tr>
<td><strong>People and society</strong></td>
<td>Civic and social science essentials</td>
<td></td>
</tr>
<tr>
<td></td>
<td>History</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Geography(^{(2)})</td>
<td></td>
</tr>
<tr>
<td><strong>People and the world of work</strong></td>
<td>X</td>
<td>during grades 1 to 4(^{(1)})</td>
</tr>
<tr>
<td><strong>Art and Culture</strong></td>
<td>Music</td>
<td>4(^{(1)}) obligatory in grades 1 and 2</td>
</tr>
<tr>
<td></td>
<td>Fine arts</td>
<td></td>
</tr>
<tr>
<td><strong>People and their health</strong></td>
<td>Physical education</td>
<td>8 obligatory in each grade</td>
</tr>
<tr>
<td></td>
<td>Health education</td>
<td>X during grades 1 to 4(^{(1)})</td>
</tr>
</tbody>
</table>
Information and communication technology | 4 | during grades 1 to 4
Optional educational activities | 8<sup>8</sup> | obligatory in grades 3 and 4
Cross-curricular themes | X | during grades 1 to 4<sup>3, 7</sup>
Disposable teaching hours | 26<sup>6</sup> | fully in discretion of school head
Total compulsory number of teaching hours | 132

Comments:

X – the number of teaching hours is stipulated by the SEP

1. One of the foreign languages must be English.

2. Due to its nature, Geography is included in the list of fields of both educational areas – People and nature and People and society.

3. Content of educational area (field) has to be provided during this period, and the details are stipulated in the SEP.

4. The offer must be such that pupils on the basis of their own choice will have the opportunity to acquire the full range of content of at least one of the fields, including the content of the integrated topic, Art production and communication.

5. Teaching hours intended for optional subjects.

6. All teaching hours must be used. They are intended for implementation of cross-curricular themes, for inclusion of other subjects, for the school’s specialisation, for increasing the number of lessons for individual educational areas (fields).

7. All thematic fields of cross-curricular themes must be included but the depth at which they are taught is decided by the school head.

The number of lessons per week in each grade must be between 27 and 35. The minimum number of lessons per study is 132 lessons, although the school can increase it up to 140 lessons. Any lessons over and above the set 132 are not covered from the State Budget.

Legislation and Bibliography:

Framework Educational Programme for Secondary General Education [10]
School educational programme

A school develops the school educational programme (SEP) on the basis of the Framework Educational Programme for Secondary General Education, or possibly framework Educational Programme for Sports Training Secondary General Schools, and legislation in force. During this preparation, the pupils' needs and condition of the school have to be respected, the legal requirements of parents, possibly of the founder and of the region, have to be taken into consideration. The school head is responsible for the development of the SEP and its implementation, and teachers participate in the preparation of individual parts and take part in decision-making. The School Council (školská rada) gives its opinion on the proposed SEP and its implementation, and approves the way through which pupils are assessed. The content of the SEP and its conformity with the framework educational programme (FEP) are evaluated by the Czech School Inspectorate. The SEP must be available to the public.

In addition to the identification data, every SEP has to contain:

- characteristics of the school (capacity and equipment, education staff, long-term projects, international cooperation, cooperation with parents and other subjects...)

- characteristics of the SEP (the school's specialisation, a profile of the school leaver, organisation of admission procedure and the school-leaving examination (maturitní zkouška), the educational strategy, description how the teaching of pupils with special educational needs or exceptionally gifted pupils will be ensured, integration of cross-curricular themes)

- the curriculum and the teaching programmes (educational content of subjects)

- the rules for pupils' assessment and self-evaluation of the school

In the SEP, the school divides the content of education stated in the FEP into subjects and grades (teaching programmes) and works out the curriculum timetable in detail. It is possible to integrate topics of individual study fields and cross-curricular themes, to divide them into more subjects or to link them. Apart from the standard approach, the curriculum can be taught in the form of seminars, courses, forums or projects. The obligatory numbers of teaching hours must be respected, although the school head has a relatively high number of teaching hours at his/her disposal (20% of the total number of teaching hours), which enable the specialisation of the school or individual pupils.

Manuals and methodology for the development of SEPs are available on the methodological internet portal [12]. The methodological portal is intended primarily for the support of teaching itself. It offers inspiration to the teachers and enables them to share their experience and results with other colleagues.
Verification of the pilot version of the school educational programme which was created on the basis of the Framework Educational Programme for Bilingual General Secondary Schools from 2007 took place at the bilingual six-year secondary general schools (dvojzajncá gymnázia) (CLIL type) in 2009-2015. On the basis of the Government regulation on the system of fields a new educational field “Bilingual General Secondary School” has been introduced, which has replaced previous one. Pupils enter the first year of education from 1 September 2016. Teaching (starting with the first year) is already binding according to the new Framework Educational Programme. The Framework Educational Programme is valid for all six years of the study, it also includes the basic education provided in the first two years of study. During the initial two years, the foreign language teaching is intensive – 10 hours per week, at minimum; in the next four years, at least a half of the total number of subjects is taught in a chosen language (English, German, French, Spanish and Italian). Education in a foreign language leads to the competence level C1 of the Common European Framework of Reference for Languages. Pupils learn also another language; the attainment of the competence level B1 is required.

The Ministry of Education, Youth and Sports can authorize any school (based on the application) to teach selected subjects in a foreign language in all grades if personnel and other conditions are fulfilled. In the school year 2016/17 60 upper secondary schools were awarded this authorization (including schools which provide professional courses), but many of them did not use it. Specific measures were approved and concrete initiatives have been realized – grant programmes, to support the language education of pupils. For more information see Language education in Chapter 5.

Pieces of information about the position of the language education in the Framework Educational Programme for Secondary General Education (and also in the Framework Educational Programme for Sports Training Secondary General Schools) are stated in the section Framework Educational Programme for Secondary General Education. The required level of competences attained in the first foreign language is B2, for additional foreign languages the level B1 according to the Common European Framework of Reference for Languages is required.
Vocational education

In the period between 2007 and 2010, the framework educational programmes (FEPs) for particular vocational fields of education were gradually introduced. In 2012, another 4 FEPs were introduced. Based on these documents, the schools created the school educational programmes (SEPs) and began to teach according to them starting with the first grades, two years after the publication of the given FEP at the latest. At present, the teaching according to the SEP took place in all fields. The development of the FEP was closely connected to the reform of the system of fields. For more information see Curriculum, subjects, number of hours.

Legislation and Bibliography:

Education Act [7]

Framework Educational Programmes for Vocational Upper Secondary Education [16]

Government regulation on the system of fields of studies [17]

Framework educational programmes

Framework educational programmes (FEPs) set:

- objectives of secondary vocational education, key competencies, vocational competencies and job opportunities for school leavers

- curricular frameworks for individual educational areas

- framework curriculum timetable

- cross-curricular themes

- rules for the development of school educational programme (SEP)

- basic conditions of the provision of the education programme (material, personal and organisational conditions and conditions of occupational safety and health protection during the educational activities)
The FEPs set the following **key competences** of a school leaver:

- learning competencies
- problem solving competencies
- communication competencies
- social and personal competencies
- civic competencies and cultural awareness
- competencies required to enter the labour market and carry out business
- mathematical competencies
- competencies to use ICT and the ability to work with information

Also **vocational competencies** of a school leaver are set. They express the professional profile of a school leaver and his/her capability to carry out a profession. The competencies are specific for each field with some common competencies related to work (occupational safety, economic and ecological behaviour etc.).

List of **educational areas**:

- language education and communication (in the Czech language and in a foreign language)
- humanity and social education
- science education (physics, chemistry, biology and ecology)
• mathematical education

• aesthetic education

• education for health (including physical education)

• education in information and communication technologies

• economic education

• specific vocational education (depending on the field of study)

The obligatory content of education and required outcomes of education are set for every educational area, which can include several educational contents.

The **framework curriculum timetable** of the content of education sets the total number of lessons of **individual educational areas** per study. A part of the time is disposable. The time for the work practice (or apprenticeship practice or practical training) is also set.

According to the Analysis of School Educational Programmes – 2007, the **general component of education** in the newly created SEPs for the courses with the school-leaving examination (*maturitní zkouška*) (including ICT and economic subjects for non-economic courses) makes up an average of 60% of the curriculum for courses of the M category. The highest proportion of the general component is in lyceum courses (77%). On the other hand, for art fields it is only 34–35%, although the total number of lessons of these courses is higher. For courses of the category L, the general component of education makes up 56%. The time for work practice, apprenticeship practice or practical training is not included in the above mentioned data.

In the apprenticeship courses with the apprenticeship certificate (*výuční list*), the general component of education in the newly created school educational programmes (including ICT and economic subjects for non-economic courses) makes up 34% for the three-year courses and only 19% for the two-year courses of category E. The practical training is included in the data.

The way the **cross-curricular themes** are included in instruction is set by the SEP. All the following themes must be included:

• Citizen in a democratic society

• People and the environment

• People and the world of work
School educational programmes

The school prepares the school educational programme (SEP) on the basis of the FEP and relevant legislation. The responsibility for its creation and implementation lies with the school head. The SEP must be available to the public. A school can prepare a separate SEP for each form of education (for day and other forms) or individual programmes can be included in the same document. On the basis of one FEP a school may prepare several SEPs for different specialisations.

In addition to the identification data the SEP includes:

- the school leavers' profile
- the characteristics of SEP (the overall conception, the organisation of instruction, implementation of practical training, key competencies and cross-curricular themes, other and out-of-school activities, conditions of admission procedure, the form of the final examination (závěrečná zkouška) and/or profile part of the school-leaving examination (maturitní zkouška) and the system of care for pupils with special educational needs and exceptionally gifted pupils – mainly the rules or and process of development, implementation and evaluation of plans of educational support and individual education plans)
- the timetable and an overview of distribution of the content of education
- the teaching programmes or educational modules

The Manual for Development of SEPs in upper secondary vocational schools was published in 2007. In 2012, the methodology Modular planning of the school educational programmes in the vocational education (Modulární projektování školních vzdělávacích programů v odborném vzdělávání) and the two-volume methodological handbook Cross-sectional topics in education of pupils of vocational schools (Průřezová témata ve výuce žáků odborných škol) were published. The methodological portal [12] provides also the methodological support for the development of SEPs.
**Legislation and Bibliography:**

*Cross-curricular Themes in Education of Pupils of Vocational Schools* [19]

*Framework Educational Programmes for Vocational Upper Secondary Education* [16]

*Manual for Development of School Educational Programmes in Upper Secondary Vocational Schools* [20]

*Modular Developing of the School Educational Programmes in Vocational Education* [21]

**Language education**

The FEPs for the courses **H of upper secondary education with the apprenticeship certificate** and for the courses of **upper secondary education with the school-leaving examination** (střední vzdělání s maturitní zkouškou) lay down the compulsory instruction of **one foreign language**. In the courses aimed at regular communication with a customer (tourism, gastronomy etc.), and in the courses of lyceum the instruction of **two foreign languages** is required. It is recommended to include another foreign language in other courses of instruction, but its inclusion is fully in the competence of the school. The level of the acquired competences in the courses of upper secondary education with the apprenticeship certificate is set for the first foreign language on the minimum level **A2+**, for another foreign language on the level **A1+** according to the **Common European Framework of Reference for Languages** [14]. For the courses of upper secondary education with the school-leaving examination, the level of acquired competences is set for the first foreign language on the minimum level **B1** and for another foreign language on the level **A2**.

In the framework educationa programmes (FEP) for courses of **upper secondary education** (střední vzdělání) and courses **E of upper secondary education with the apprenticeship certificate** (střední vzdělání s výučním listem), **inclusion of the foreign language into the SEP is not compulsory**, it is within the authority of the school. If the school includes the foreign language in the SEP, the time for its instruction should be at least two lessons per week. The level of the required knowledge is basic, that is to say on the level **A1** according to the Common European Framework of Reference for Languages.

To support language learning, it is **recommended** to work with multimedia education programmes and the internet, to create a favourable school environment, to develop and to take advantage of the offered European programmes. It is also considered useful to integrate the technical language into the instruction, for example to create conditions for the partial instruction of the topical units of the selected subjects in the foreign language, to encourage pupils to participate in the projects and competitions and to make contacts and start cooperation among schools in one’s own country and abroad. It is recommended to organize technical language stays and internships to motivate pupils to learn foreign languages, for their personal experience and for their learning about life in the multicultural society. The school should create motivating conditions for creation of the **European Language Portfolio** and by this also support the positive approach of pupils towards the foreign languages acquisition.
In 2012, the National Institute of Education issued the handbook *CLIL in education - how to include the foreign language into instruction*. Some specific measures were adopted to support the language education of pupils and concrete initiatives are being implemented – so called *grant programmes*. For details see *Language education* [22] in Chapter 5.

The *Ministry of Education, Youth and Sports* [23] can authorize any school (based on the application) to teach selected subjects in a foreign language in all grades. For more information see *Language education* in General Education.

**Legislation and Bibliography:**

Education Act [7]

Framework Educational Programme for Secondary General Education [10]

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**Example framework curriculum timetables**

**Example curriculum timetable of a course of upper secondary education with the school-leaving examination according to FEP**

Example curriculum timetable of a course n. 2641M01 Electrotechnics

Duration and form of education: 4 years, day form

<table>
<thead>
<tr>
<th>Educational Areas and Contents</th>
<th>Minimum number of teaching hours during the study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weekly</td>
</tr>
<tr>
<td>Language education and communication</td>
<td></td>
</tr>
<tr>
<td>- Czech language</td>
<td>5</td>
</tr>
<tr>
<td>- Foreign language</td>
<td>10</td>
</tr>
<tr>
<td>Humanity and social education</td>
<td>5</td>
</tr>
<tr>
<td>Science education</td>
<td>6</td>
</tr>
<tr>
<td>Mathematical education</td>
<td>12</td>
</tr>
<tr>
<td>Aesthetic education</td>
<td>5</td>
</tr>
<tr>
<td>Education for health</td>
<td>8</td>
</tr>
<tr>
<td>Education in information and communication technologies</td>
<td>6</td>
</tr>
<tr>
<td>Economic education</td>
<td>3</td>
</tr>
</tbody>
</table>
### Basics of Electrotechnics

<table>
<thead>
<tr>
<th>Subject</th>
<th>Duration</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrotechnics</td>
<td>6</td>
<td>192</td>
</tr>
<tr>
<td>Electrotechnical measuring</td>
<td>16</td>
<td>512</td>
</tr>
<tr>
<td>Technical drawing</td>
<td>8</td>
<td>256</td>
</tr>
<tr>
<td>Disposable teaching hours</td>
<td>3</td>
<td>96</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>128</strong></td>
<td><strong>4 096</strong></td>
</tr>
</tbody>
</table>

The minimum number of teaching hours in individual years is 29.

**Notes:**

1. The framework curriculum timetable of the educational content is the basis for the development of the SEP. The subjects created on the basis of the educational areas and contents set by the FEP are included into the SEP timetable. The educational areas and contents and the minimum number of teaching hours are binding; the observance of these in the SEP must be demonstrable.

2. Disposable teaching hours are intended for profiling of the SEP, implementing the cross-curricular themes, strengthening of the time allocation to individual educational areas and contents, supporting the interest orientation of pupils, implementing of teaching of another foreign language.

3. The minimum number of teaching hours during the whole study is 128, the maximum number is 140.

4. Science education in the SEP is based on the A variant of the physics component and B variant of the chemistry component of the FEP. For the reason of specific needs of the course, the minimum number of weekly teaching hours for the physics component, set by the FEP, is 3.

5. To make the education successful, it is necessary to set up conditions for the acquirement of required practical skills and activities in the form of exercises (in laboratories, workshops, special classrooms, simulated companies, etc.), apprenticeship practice and work practice. Pupils can be divided into groups for the exercises during the apprenticeship practice and practical training, mainly for the reason of safety and health protection at work and sanitary requirements according to valid regulations. Content of practical activities is based on the educational areas and contents of the framework educational programme.

6. The average number of lessons in one class per week with regards to the necessary division of classes into groups is given by 52.04 for each grade. The stated figure of the indicator H is set as minimal in the process of setting the amount of financial means allocated according to the Decree on Regional per capita amounts.
7. Work practice in the minimum extent of 4 weeks during the whole education must be included in the SEP. Work practice is organised in accordance with valid legal regulations. Apart from that, the school will include apprenticeship practice in the framework of the educational content of Electrotechnics, in the minimum extent of 8 weeks during the whole education.

8. Physical education must be included in every grade in the minimum extent of 2 lessons a week during the whole education. Including other sports and relaxation activities to support healthy development of pupils is recommended.

9. The school provides conditions for improving the quality of language skills of pupils and for teaching of other foreign languages.

Example framework curriculum timetable of a course of upper secondary education with the apprenticeship certificate

Example framework curriculum timetable of a course n. 2351H01 Mechanic (Strojní mechanik) according to the FEP.

Duration and form of education: 3 years, day form

<table>
<thead>
<tr>
<th>Educational Areas and Contents</th>
<th>Minimum number of teaching hours during the study</th>
<th>Weekly</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language education and communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Czech language</td>
<td>3</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>- Foreign language</td>
<td>6</td>
<td>192</td>
<td></td>
</tr>
<tr>
<td>Humanity and social education</td>
<td>3</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Science education</td>
<td>4</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Mathematical education</td>
<td>5</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Aesthetic education</td>
<td>2</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Education for health</td>
<td>3</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Education in information and communication technologies</td>
<td>3</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Economic education</td>
<td>2</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Mechanical products</td>
<td>8</td>
<td>256</td>
<td></td>
</tr>
<tr>
<td>Producing, servicing and operation of mechanical products</td>
<td>39</td>
<td>1 248</td>
<td></td>
</tr>
<tr>
<td>Disposable teaching hours</td>
<td>18</td>
<td>576</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>96</strong></td>
<td><strong>3 072</strong></td>
<td></td>
</tr>
</tbody>
</table>

The minimum number of teaching hours in individual grades is 29.
The framework curriculum timetable of the educational content is the basis for the development of the SEP. The subjects created on the basis of the educational areas and contents set by the FEP are included into the SEP timetable. Set educational areas and contents and the minimum number of teaching hours are binding; the observance of these in the SEP must be demonstrable. The pupil – teacher of practical training ratio is set by a Government regulation.

Disposable teaching hours are intended for profiling of the SEP, implementing the cross-curricular themes, strengthening of the time allocation to individual educational areas and contents, supporting the interest orientation of pupils, implementing of another foreign language teaching.

The minimum number of teaching hours during the whole study is 96, the maximum number is 105.

For the reason of specific needs of the course, the minimum number of weekly teaching hours for the physics component of science education, set by the FEP, is 2.

To make the education successful, it is necessary to set up conditions for acquirement of required practical skills and activities in the form of exercises (in laboratories, workshops, special classrooms, simulated companies, etc.) and practical training. Pupils can be divided into groups for the exercises and practical training, especially for the reason of safety and health protection at work and sanitary requirements according to valid regulations. The pupil – teacher of practical training ratio is set by a Government regulation.

The average number of lessons in one class per week with regard to the necessary division of classes into groups of education is given by 20.9 in the theoretical part for every grade; in the practical part by 30.43 for every grade. The stated figure of the indicator H is set as minimal in the process of setting the amount of financial means allocated according to the Sections 160-162 of the Education Act and the Decree No. 492/2005 Coll., on Regional per capita amounts.

The content of practical activities is based on the educational areas and contents of the FEP, namely from the “Producing, servicing and operation of mechanical products” content. The minimum extent of practical activities in the form of practical training must be 35 weekly hours during the whole education.

In the SEP, physical education must be included in every grade. Including other sports and relaxation activities to support healthy development of pupils is recommended. In case the education is organised in the way of weekly rotation of theoretical teaching and practical training, the number of physical education lessons must not go under 2 lessons in the week of theoretical teaching. In case of both theoretical teaching and practical training within one week, the number of physical education lessons is 2. Including suitable physical activities compensating the one-side physical load of pupils during the practical training is also
9. The school provides conditions for improving the quality of language skills of pupils and for teaching of other foreign languages according to the interest and skills of pupils.

10. Instruction aimed at acquisition of the welding certificate is carried out in welding schools according to the ČSN norm in accordance with rules of the authorised body in the extent of a basic welding course. Acquisition of relevant certificates is not the condition for sitting the school-leaving examination (maturitní zkouška).

Legislation and Bibliography:

Framework Educational Programme 2641M01 Electrotechnics [24]
Framework Educational Programme 2351H01 Mechanic [25]

Teaching methods and materials

The education is theoretical and practical, whereas in vocational courses, mainly in those designated as upper secondary education with the apprenticeship certificate (střední vzdělání s výučním listem), practical education forms an essential part of education.

According to the Education Act, one of the principles of education is the wide use of effective modern teaching methods and approaches to education. Framework educational programmes can set out basic methods and teaching requirements; however, the choice of actual educational methods depends on a school and a teacher. Schools have to describe the total educational concept and educational strategy of individual subjects/modules in their school educational programmes. The school educational programme can be composed as a standard one (classic), which means that it is based on the educational subjects and curriculum, or in the case of the vocational education also as a modular one. The use of modules is suitable mainly in the case if the school would like to contribute to individualization of the educational path of pupils and to offer different educational paths, forms and possibilities. The cross-sectional topics are also included into the educational programmes. For more information, see the previous sections.

Some of the theoretical subjects are usually taught in laboratories.

The practical element of instruction includes exercises, practical training, apprenticeship practice, work practice, artistic practice and sports training. It takes place at school or at the school special purpose facility (středisko praktického vyučování) (alternatively in another type of school facility) or at the workplaces of natural persons or legal entities. It is organised for relatively small groups of pupils (see Age levels and grouping of pupils/students [26]).
Exercises are included in the basic subjects. It enhances vocational education and training of pupils. The exercises are provided in special classrooms, laboratories and workrooms or workplaces. During such exercises the class is divided into groups. Exercise can also be included in some theoretical subjects.

Practical training is based on acquisition of basic skills, activities, and habits, on production of products, on performance of services, or realisation of work which has a material value (usually the education is organised in the way of weekly rotation of theoretical teaching and practical training). Apprenticeship training is carried out regularly within the instruction, work or artistic practice is also carried out within the instruction, mainly in blocks and during whole weeks.

The upper secondary schools may, in accordance with curricular documents, organise skiing trips, educational-training courses, sports courses or sight-seeing trips and other activities related to a school’s educational role.

Alternative education paths are more often applied at the compulsory level of education. Some secondary schools use components of Waldorf pedagogy, four secondary schools offer the Waldorf lyceum course.

The minimum material equipment for a school is set by curricular documents, the health and safety requirements are set by a relevant decree of the Ministry of Health [27].

There are no specific requirements as to teaching aids and the school head decides on their selection, which must however be adequate to the needs of pupils. In the Bulletin of the Ministry of Education, Youth and Sports [23] and on the Internet, the Ministry of Education, Youth and Sports publishes the List of textbooks and teaching texts approved by an approval clause [28] on the basis of an assessment as to whether they comply with educational objectives stipulated in the Education Act, in framework educational programmes and legal regulations. Schools may also use other textbooks and teaching texts unless these are contrary to these educational objectives. A school head decides on the use of textbooks and teaching texts, and the pupils cover the cost themselves. Since 2007/08, almost all schools have been equipped with computers, and the majority of these are connected to the Internet.

There are no regulations relating to pupils' homework.

Legislation and Bibliography:

Decree on Sanitary Standards in Institutions and Facilities for Education of Children and Youth [29]

Decree on Secondary Education and Education in Conservatories [30]

Education Act [7]

Framework Educational Programmes for Vocational Upper Secondary Education [16]
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