



Vocational Education and Training

Overview of the professional qualification opportunities in Germany

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Preface

This brochure provides an insight into the types and levels of training as well as occupational titles. It provides a systematic overview of the occupational and training landscape in Germany. In addition to initial vocational education and training, the brochure also addresses the options for advanced and continuing vocational education and training. The different qualifications are matched to the levels of the German Qualification Framework.

Based at the Federal Institute for Vocational Education and Training (BIBB), the German Office for International Cooperation in Vocational Education and Training (GOVET) is the central point of contact for enquiries from Germany and abroad relating to the topic of vocational education and training, and VET cooperation. The large number of enquiries from all over the world are evidence of the interest in Germany's dual system of vocational education and training. Less well known are the many other qualification pathways in the German vocational education and training system.

The following information has been put together using numerous publications from the Federal Institute for Vocational Education and Training and with the support of the divisions responsible.

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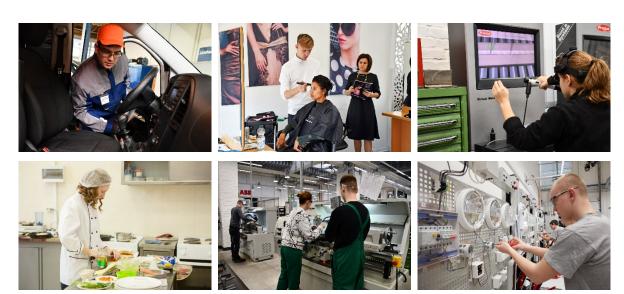
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1. Introduction

1.1. The diversity of the occupational and training landscape in Germany

- In Germany there are currently approximately 28,000 occupational titles.
- A distinction is made between occupations which are regulated and non-regulated, academic and non-academic, and governed by federal law, federal state law or by neither, as well as dual and school-based education and training, state-recognised training and training which is not recognised by the state. The following addresses these differences in detail. Outdated and synonymous¹ titles also exist.
- In everyday usage, occupations are often combined into occupational groups, such as skilled crafts occupations, non-skilled-craft industrial occupations, business administration occupations, woodworking and metal production occupations, service occupations, healthcare, laboratory and office occupations, artistic and freelance occupations, green occupations, and many others. These occupational groups are not formally regulated and there are overlaps.
- When the amended Vocational Training Act (BBiG) came into effect on 1 January 2020, entirely new occupational titles were added or replaced the previous ones. For the first time, for example, transparent advanced vocational training levels have been introduced for higher-level vocational education and training, previously known as upgrading training. In future, the titles "Certified professional specialist", "Bachelor Professional" and the "Master Professional" can be used for qualifications obtained as part of continuing vocational education and training. Professional qualifications are correlated with academic qualifications, the purpose of which is to emphasise the equivalence of vocational and academic education and training. The aim behind systemically establishing advanced vocational training levels and creating new titles which are easier to understand internationally, is to provide greater transparency regarding the level and scope of the additional competencies gained in advanced vocational training. The purpose of this is to support the mobility of graduates and increase the attractiveness of vocational education and training.



¹ The skilled express and postal services employee is still known colloquially as "postman" ("Briefträger" or "Postbote" depending on the region in Germany).



1.2 The German term "Beruf" ("Occupation")

- The German principle of tailoring vocational training to recognised skilled occupations—the occupational principle (or "Berufsprinzip")—is based on a holistic approach. The training is focussed on problem-solving capability and is intended to result in wide-ranging vocational employability skills both through the teaching of technical knowledge and skills as well as the development of personal and social skills.
- A distinction is made between a "training occupation" and "gainful occupation".
 - → A training occupation involves a structured training programme focussed on achieving the minimum standard required for undertaking a responsible task at the level of an intermediate skilled worker. It follows a statutory training regulation and concludes with a recognised qualification certificate. By basing it on a standard qualification, switching between different companies in an area of employment is made easier.
 - → A gainful occupation is defined by work tasks and activities specified by the company and is necessary for earning an income.
- The term "occupation" must be distinguished from a simple vocational activity referred to colloquially in Germany as a "Job". The German "Job" is defined as a gainful employment activity performed only on a temporary basis or not linked to a particular aptitude or training.
- A specific aptitude and inclination have an important role to play when choosing the training occupation. The German term for occupation ("Beruf") originally comes from the religious concept of "calling", which in the Middle Ages referred to man's divine calling. This concept was then later used in a more secular context. Skilled craftsmen, for example, were "called" to the court of a monarch. Today, German universities still "call" their professors.
- The occupation combines a range of social aspects.
 - → It enables each individual to earn a living.
 - → It represents the activity, and the role the individual performs in a society based on the division of labour. It therefore has an integrating effect and, at the same time, contributes to the social status of the person concerned.
 - The necessity or the personal need to entirely refocus professionally—for example for health or labour market reasons—has, in everyday language, led us to distinguish between the occupation in which we "trained" and the one which we "practise". This often amounts to a complete change in occupational specialism which may occur without retraining. Competencies acquired in the occupation or in the private sphere may lead to a gainful occupation which bears little or no relation to the original training.











- 2. Classifications of occupations various models for systematising gainful occupations
- At international level, the relevant benchmark was set by the "International Standard Classification of Occupations (ISCO)". This was revised by the International Labour Organization (ILO) in 2008.²
- In 2008, the revision of the classification model produced by the Federal Employment Agency in 1992 was published by the Federal Institute for Vocational Education and Training (Tiemann/Schade/ Helmrich et al.) and this revision defined 54 occupational fields. In a revision in 2018, M. Tiemann (BIBB) published the adaptation in line with the 2010 classification produced by the Federal Employment Agency (see following section).
- The new in-depth "Classification of Occupations" prepared by the Federal Employment Agency (BA) has applied in Germany since 2011. It starts with the occupational areas (similar areas of activity and profiles), in the next step it assigns different requirement levels to the occupations. It is used for the statistical recording and structuring of labour market data.
- In terms of career orientation, the BA representation is based on occupational fields, which in turn are based on sectors, work tools and equipment materials, products, areas of knowledge, areas of technology, and so on. This simplified description is intended to provide information for those interested in training and arrives at the following 16 occupational fields:

	T	i	_	T
	Agriculture, Nature, Environment		and	Economy, Administration
	Production, Manufacturing			Transport, Logistics
	Construction, Architecture, Surveying			Services
M.	Metalworking, Engineering		**	Health
	Electronics			Social affairs, Education
	IT, Computers		Q	Social Sciences, Humanities
	Natural sciences		(°°°)	Art, Culture, Design
	Technology, Technological fields			Media

²See the bibliography in the appendix for all models and sources referred to here and in the following text.

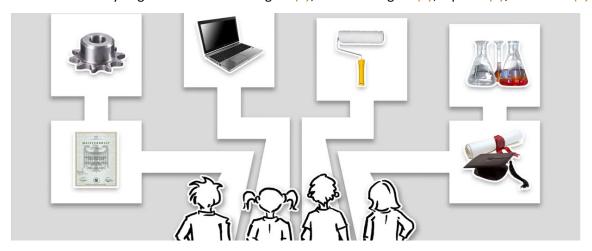


3. Different qualification pathways in the German education system

3.1. Different training programmes

In most occupational fields there are occupations for almost all training programmes,

- ► Initial vocational education and training (= DQR 3/4)³
 - \rightarrow Dual training \rightarrow skilled crafts, commercial, natural sciences, technical, business administration, etc.
 - → School-based training → healthcare/social sector/assistant occupations etc.
- Higher-level vocational education and training
 - → Certified professional specialist (= DQR 5)
 - → Bachelor Professional (also e.g. master craftsperson, technician, business management specialist etc.) (= DQR 6)
 - → Master Professional (also e.g. business economist, vocational training specialist) (= DQR 7)
- Forms of continuing vocational education and training
 - → Updating training → bringing vocational skills up to date
 - → Supplementary advanced training → consolidation and broadening of existing knowledge, skills and capabilities
 - → Continuing academic education and training → continuing education and training at a university
 - → Retraining→ reorientation in another occupational field
- Academic education and training (= DQR 6/7/8)
 - → University of applied sciences degree → bachelor's degree (6), master's degree (7), in some cases still: "Diplom (FH)" [diploma from university of applied sciences] (7)
 - → Dual course of study → combination of university of applied sciences degree and dual training
 - → University degree → bachelor's degree (6), master's degree (7), diploma(7), doctorate (8)



³ DQR = German Qualification Framework, see glossary.

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3.2. Examples of occupations and training programmes at the individual DQR levels

Systematisation by degree of complexity and nature of activity⁴

- ▶ DQR 1-2: No training simple helping jobs →
 e.g. harvest workers, kitchen assistant/assistant cook, relief waiter, electrical assistant
- ▶ DQR 3: Dual (= company-based) training occupation (2 years) →

e.g. specialist in the hospitality services industry, warehouse operator, construction finishing worker, sales assistant for retail services, skilled metal worker

- Dual (= company-based) training occupation (3–3.5 years) →
 e.g. farmer, cook, warehouse logistics operator, mechatronics engineer for refrigeration technology, plant mechanic
- or: (full-time) school-based training occupation →
 e.g. agricultural assistant, food processing assistant, hotel management assistant, technical commercial building services assistant, mechatronics fitter assistant specialising in maintenance and servicing
 - **DQR 5**: Specialised higher-level qualification →
 e.g. certified professional specialist—service technician, IT specialist, dietary cook
- ▶ DQR 6: Upgrading training to master craftsperson →
 e.g. Bachelor Professional of... /agriculturalist (master craftsperson), master chef, restaurant supervisors (master craftsperson), electrics technician (master craftsperson)⁵
- or: <u>Technical upgrading training</u> →
 e.g. Bachelor Professional of... /technician agricultural engineering, technician food technology, technician building systems engineering
- or: Commercial upgrading training →
 e.g. Bachelor Professional in.../agricultural business economist—accounting, certified senior business specialist, industry specialist, media and publishing specialist, accountant
- or: Academic bachelor's degree at a university of applied sciences/university →

 e.g. Bachelor of Science (B. Sc.) Agricultural Sciences, Bachelor of Science or Bachelor of Education in Food Technology, Bachelor of Electrical Engineering

⁵ Future graduates have the option of using the new occupational titles on their own or in addition to the existing qualification designations which are still valid.

⁴The occupations specified here in the same occupational field do not necessarily build on the ones before. These are occupations named as examples at the different qualification levels of the respective occupational field.



▶ DQR 7: Advanced upgrading training →

e.g. Master Professional of.../technical business management specialist, commercial business management specialist, certified vocational training specialist

- or <u>Academic master's degree at a university of applied sciences/university</u> →
 e.g. Master of Science (M.Sc.) Agricultural Engineering, M.Sc. Food Technology, M.Sc. Business
 Administration, M.Sc. Green Electronics
- ▶ DQR 8: <u>Doctorate at a University</u> →

e.g. Doctor of Agricultural Sciences (Dr. agr.), Doctor of Economics (Dr. oec.), Doctor of Nutritional Science (Dr. oec. troph.), Doctor of Engineering (Dr. Ing.)

Vocational and academic qualification pathways	Qualifications	Access to further qualification pathways					
(choice)		Vocational ⁶	Academic ⁶				
Vocational education and training (VET)							
Company-based training (dual system) and full-time vocational schools	Qualification in state- recognised training occupation	Master craftsperson Specialist Other vocational qualifications	Bachelor's degree Master's degree				
Mixed forms of general and vocational education and training							
e.g. full-time school- based VET with university entrance qualification	Qualification in state- recognised training occupation AND univer- sity entrance qualification	Master craftsperson Specialist Other vocational qualifications	Bachelor's degree Master's degree				
Academic education							
University of applied sciences	Bachelor's degree Master's degree (Doctorate)	Other vocational qualifications	Doctorate Generally subject to specific requirements				
University	Bachelor's degree Master's degree Doctorate	Other vocational qualifications	All				
Dual course of study (combination of course of study at colleges of advanced vocational studies, universities of applied sciences or universities with company-based vocational education and training or advanced vocational training)							
a) With professional qualification	Qualification in state- recognised training or advanced training occu- pation AND bachelor's OR master's degree	Master craftsperson Specialist Other vocational qualifications	Master's degree				
b) No professional quali- fication but with exte- nsive company-based practical experience	Bachelor's degree Master's degree		Master's degree				

This simplified chart shows selected and typical vocational and academic qualification pathways but is not an exhaustive list.

⁶ Requirements for admission on to further education pathways may be several years of work experience.



4. Training programmes in initial vocational education and training

4.1. Vocational training in the dual system

- ► There are 326 dual training occupations (as of 2020).⁷
- Legal basis: Vocational Training Act (BBiG) and Crafts and Trades Regulation Code (HwO).
- This is governed by federal law. This means the general training plan is prepared with the agreement of the federal government, federal states, employers, and employees before being issued by the federal ministry responsible, generally the department for economic affairs.
- Most of the training, i.e. approximately two-thirds, takes place at the company and one third at the vocational school. This is why it is also referred to as company-based training.
- The framework curricula for the vocational schools are coordinated with the general training plans for the companies. However, they fall under the responsibility of the 16 federal states which are able to set their own priorities in general education subjects.
- The three largest occupational groups are the occupations in the skilled crafts, and commercial, natural science, technical, and business administration occupations. In addition, there are also the agricultural and service occupations. Individual occupations appear in multiple or all occupational groups, as can be seen in the areas listed individually below. These overlaps are the reason why the individual figures mentioned for the areas appear to exceed the total number of 326.
- In recent years, just over two-thirds of those starting training opted for vocational training in the dual system (see BIBB Data Report).



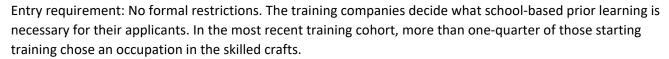
⁷ As a result of constantly advancing technical and social development, new job descriptions are continually being created while outdated ones are being removed. The number of dual training occupations therefore also changes accordingly.



4.1.1 Skilled crafts occupations

There are 130 occupations which are predominantly the responsibility of the Chambers of Crafts and Trades, guilds and district skilled craft associations. These are in the following areas:

- Woodworking industry
- Building and interior construction industry
- Electrical engineering and metalworking industries
- Clothing, textile and leather making and processing industries
- Glass, paper, ceramic and other industries
- Chemical and cleaning service industries
- Healthcare and body care industries
- Food-production industry



4.1.2 Occupations in the natural sciences, and commercial or technical occupations

There are around 250 technical occupations which in some cases are identical to the skilled crafts occupations. Training for these is provided in industrial companies or other larger companies and is mainly the responsibility of the Chamber of Commerce and Industry. These also include the "laboratory occupations" in the natural sciences. For example:

- Plant mechanic
- Biological laboratory technician
- Chemical technician
- Electronics technician for industrial engineering
- Skilled metal worker
- Machine and plant operator
- Mechatronics fitter
- Production technologist
- Materials tester

Entry requirement: No formal restrictions. The training companies decide what school-based prior learning is necessary for their applicants. In recent years, around 60 percent of those starting training have opted for an occupation in commerce and industry (see BIBB Data Report).







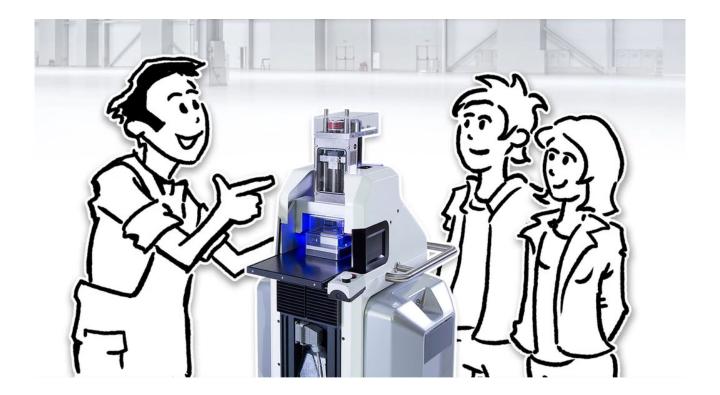
4.1.3 Business administration occupations

Depending on how they are counted, there are 49 or more business administration occupations which, as with the occupations already mentioned, in some cases overlap with the service occupations and are located in the following areas.

- Commerce (retail, wholesale and foreign trade, industry)
- Commercial office and public administration
- Finance, controlling and law (banking, insurance, judiciary)
- Logistics and traffic (freight forwarding and logistics services)
- Property
- Hotel and gastronomy
- Leisure and tourism



Entry requirement: No formal restrictions. The training companies decide what school-based prior learning is necessary for their applicants. An intermediate or even higher-level school leaving certificate is often required.





4.2. School-based training

- School-based training courses, which take place with full-time tuition at a full-time vocational school, at a trade and technical school or at a school in the healthcare sector, also have a high proportion of company-based practical phases in some cases. This applies in particular to specialist health occupations regulated under federal law.
- These mainly involve training programmes in health and social care, but there are also some in foreign languages or engineering and IT.
- Some offers are subject to the Vocational Training Act (BBiG) or individual occupational laws and federal regulations and therefore follow training content specified under federal law. However, most are regulated by the federal states (by federal state law) and following framework curricula also specified by the federal states. This means that provision differs from one federal state to another in terms of duration, content, admission requirements, etc.
- Vocational training courses at so-called (private) "supplementary schools" (e.g. language or gymnastics schools), whose provision does not generally exist in state schools are fee-paying schools and are not necessarily state recognised. In these cases, the qualifications are documented by means of an internal educational certificate (or confirmation).
- In recent years, according to BIBB's data reports, around one third of those starting training opted for full-time school-based training and, in turn, one quarter of these opted for a profession in the area of healthcare, education or social services.

4.2.1 Occupations governed by federal law

- These mainly relate to the 17 8 non-academic training courses in the healthcare sector which lead to a specialist health occupation (as of July 2020).9
- The duration is normally three years.
- These are always regulated occupations, which means they must only be practised by persons who can demonstrate they have passed the final examination and therefore have the state-recognised training qualification and are authorised to use the relevant occupational title.
- Besides nursing occupations, this also includes therapeutic occupations, for example, in the fields of speech therapy, occupational therapy, physiotherapy and also the occupations of podiatrist, dietician and emergency paramedic.

Entry requirement: Usually an intermediate level training qualification.

⁸ There have been statutory changes in this area since 2019, some of which have not yet entered into force in 2020.

⁹ In some federal states there are also school-based training offers with the options of gaining a qualification in a recognised training occupation under the BBiG/HwO. There was recently a sharp fall in the number of applicants, however these may rise again if the economic situation worsens.



4.2.2 Occupations governed by federal state law

Depending on how they are counted, around 50 training programmes are offered which mostly require an intermediate-level school leaving certificate and take between one and three years depending on whether they are completed on a full-time or part-time basis. These include the following areas:

- ► Technical—39 assistant occupations (e.g. biological, chemical and information technical assistant, ship operations assistant).¹¹¹ The federal states regulate the assistant training in their school or full-time vocational school regulations based on a joint framework agreement on mutual recognition.
- Foreign languages—interpreting, translating, foreign language correspondence (e.g. European secretary, euro management assistant)
- Design creative occupations (e.g. photo and media technology assistant, ceramist, designer, professional artist, dancer, ensemble director)
- Business administration field—e.g. commercial assistant in business administration, specialists in hotel management
- ▶ Health, social affairs and personal care—e.g. assistant occupations in nursing, and social assistant



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 $^{^{10}}$ Training for medical and pharmaceutical technical assistants are however regulated by federal law.



4.3. Training programmes in the public sector

4.3.1. Occupations and training programmes in general

- Public sector is defined as all employees and the activities of employees of the federal government, federal states, municipalities as well as foundations and institutions under public law. In this case employee refers to civil servants and public employees covered by collective wage agreements.
- In 2019, the public sector in Germany comprised approx. 4.9 million employees of which around 501,800 were employed by the federal government, 2.46 million by the federal states, 1.56 million by the municipalities, and 367,600 by the social insurance institutions.
- Public sector employees covered by collective wage agreements are trained in a total of more than 130 state-recognised training occupations. Besides those occupations where training is identical to that in the commercial sector, there are also public sector-specific occupations e.g. for public administration and the judiciary. Alongside these training occupations, the public service has around 30 training programmes for various civil servant careers.
- As of 30 June 2018, there were around 235,000 individuals undergoing training in the public sector (see Data Report).
- Occupations which are offered only in the public sector because the tasks associated with them are of an official nature—such as hazard prevention, defence, maintenance of public order, internal market protection and emergency services—include for example working for the professional fire service, the police, customs and the German armed forces.

4.3.2 Qualification pathways in the public sector

- Public service occupations also have different requirement levels. As a civil servant—depending on your educational background—training can be aimed at the ordinary, intermediate, higher intermediate or higher service, or in the corresponding wage groups as a public employee.
- A basic distinction is drawn between occupations in the technical and non-technical service, or between specific administrative occupations in public service and occupations which are offered in identical form in the private sector labour market.
- The training at the intermediate service level has a dual structure which means it comprises theoretical and practical phases. Specific dual courses of study are offered in the higher administrative service.
- An intermediate-level school leaving certificate is sufficient for some civil servant careers, while for others completed vocational education and training or a university degree is required.





Appendix

The most popular dual occupations in terms of new contracts

The group of the twelve most popular dual training occupations has barely changed over the last three years. The ranking has just changed slightly. Here are the results for 2019:

- 1. Motor vehicle mechatronics technician
- 2. Information technology specialist
- 3. Electronics technician
- 4. Plant mechanic for sanitary, heating and air conditioning systems
- 5. Industrial mechanic
- 6. Management assistant for retail services 7. Sales assistant AUSBILDUNG 8. Warehouse logistics operator 9. Wholesale and foreign trade clerk 10. Mechatronics fitter PILOT 11. Office manager PRAKTIKUM 12. Industrial clerk KOC FRISÖR Lehrer DRUCKER



Recognition of foreign professional qualifications

- ▶ The federal government's Recognition Act which came into force in 2012 gives skilled workers from abroad the right to have their professional qualification checked for equivalence against the German reference occupation subject to the available certificates being provided in full.
- In the period from 2012 to 2018, 279,400 applications were submitted which produced 82,600 fully recognised qualifications. No equivalence was established in 3,800 cases. In 2018, the rate of full recognition was at 52.5 percent. In 35.5 percent of cases the applicants were required to complete a compensation measure and in 9.2 percent of cases partial equivalence was established.
- Around 140,700 applications were for the 600 occupations regulated under federal law.
- More than 100,000 applications for non-academic occupations regulated under federal law came from Europe, approximately 27,000 came from Asia and about 6,850 from Africa.
- In 2018, 20.4 percent of applications were made directly from abroad.
- There were more than 20,100 applications in the healthcare and the nursing sector which included those from doctors of medicine, pharmacists and physiotherapists. This is also the largest group of applications among the regulated occupations.
- Leading the way in the non-regulated occupations were office managers, motor vehicle mechatronics technicians and electronics technicians in various specialisms.
- Around 380,200 people received advice and the largest group among these were teachers and applicants from the areas of engineering and business administration and economics.





Glossary

Academic occupations Require a completed university (of applied sciences) degree

Company-based training

Synonymous with dual training

DQR German Qualifications Framework for Lifelong Learning [Deutscher

Qualifikationsrahmen für lebenslanges Lernen]. Its purpose is to align qualifications obtained in Germany to the eight levels of the European Qualifications Framework (EQF, see below). It therefore makes it easier to compare qualifications both within Europe as well as within

Germany, and in doing so makes individuals more mobile over the

course of their training and employment

Dual course of studyCourse of study at a university (of applied sciences) or college of

advanced vocational studies with integrated vocational education and training or with practical phases based in a company This is organised in

three different ways (three models): "integrated in training",

"integrated in occupation", "integrated in practice"

EUROPEAN Qualifications Framework (see DQR)

(Full-time) schoolbased training Takes place predominately in full-time vocational schools or healthcare

sector schools

Full-time vocational

school

Besides training courses leading to partial qualifications, full-time vocational schools also offer—on a full-time basis—training courses leading to full qualifications with a professional qualification (mainly

non-academic healthcare and assistant occupations)

Green occupations Occupations in the areas of agriculture, nature, animal husbandry (also

includes winemaker, housekeeper and dairy technologist)

Helper occupationsThese occupations also require a familiarisation phase in which specific

knowledge and skills are taught, however this is not aimed at a holistic understanding of the occupation. An exception to this are the helper occupations in the nursing sector which in some federal states also

require a two-year training programme

Higher-level vocational education and training

Replaced the term "upgrading training" which applied until the amended Vocational Training Act entered into force on 01/01/2020.

Liberal professions Academic, artistic, literary, teaching and educational professions

performed on a self-employed basis (also includes doctors of medicine,

lawyers, designers, journalists)

Mono-occupations Training occupations without specialisation

Non-regulated occupations

There are no training regulations for these. They are carried out either on a self-employed basis or based on a related occupation (e.g. yoga

teacher, detective, job coach, nutritionist, language tutor)

Non-regulated profession

These include all professions that are trained in the dual system, among others. There is no legal requirement for practicing these professions



Occupations governed by federal state law	Occupations regulated by the laws of the (federal) states				
Regulated occupation	Apprenticeships are regulated by federal or state law. A distinction is therefore made between federal and state regulated professions, with their respective training regulations				
Regulated professions	Occupations for which legal and administrative provisions specify that the occupation may be practised only if evidence of an appropriate qualification is provided. This applies to academic as well as non-academic professions: For example, medical and legal professions or teaching at public schools as well as professions in the public sector are regulated.				
State-recognised qualification	Final examination has been conducted by a non-governmental institution and has been recognised by the state as equivalent				
State-certified	A government office conducted the examination itself				
Service occupations	All customer-related professions such as midwife, architect, hairdresser, train driver, physiotherapist, actor				
Vocational college	Denotes partly different school systems or educational programs due to the partly different education systems in the individual (federal) states. The central importance of the vocational college lies in the combination of general and vocational education				
Vocational school	Responsible for around one third of the dual training. Theoretical knowledge for the intended training occupation is also taught alongside general educational content.				
Vocational training in the dual system	Approx. 2/3 of training in the company and 1/3 at vocational school				



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