Brandenburg's higher education system

This chapter discusses the organisation and structure of Brandenburg's higher education system, as well as the roles played by the state and federal government in steering, regulating and overseeing the system. It also examines the governance of higher education institutions. The chapter lays out the types of programmes offered in the system, including the growing popularity of dual programmes. It explores the financial challenges of continuing education and training programmes, and public funding in general. Finally, policy recommendations identify how Brandenburg can overcome its challenges.

Governance of the higher education system

The Ministry of Science, Research and Culture co-ordinates and oversees higher education institutions in Brandenburg

In Germany, much of the authority over education is delegated to the states (*Länder*), with the federal government reserving some powers set out in the Basic Law (Article 30) (AER, 2017_[1]) (Box 3.1). Therefore, the states have primary responsibility for higher education and operate with a large measure of autonomy (Kultusministerkonferenz, 2019_[2]). The governance of higher education, research and cultural affairs in Brandenburg lies in the hands of the Ministry of Science, Research and Culture (*Ministerium für Wissenschaft, Forschung und Kultur (MWFK*)). MWFK has responsibility for public higher education institutions and the non-university research landscape, as well as theatres, orchestras, museums, and music and art schools.

Box 3.1. The role of the Federal Ministry of Education and Research in higher education

While the states have primary responsibility for higher education in Germany, the Federal Ministry of Education and Research (*Bundesministerium für Bildung und Forschung – BMBF*) oversees nationwide policies for higher education and plays an increasing role in funding higher education . The Basic Law defines the federal government's responsibilities in the field of higher education as the following, among other areas:

- admission to higher education and awarding of higher education degrees, although Länder may enact state-specific laws;
- financial assistance for students via the Federal Training Assistance Act (Bundesausbildungsförderungsgesetz BAföG);
- the status-related rights and duties of public higher education staff, who have the status of civil servants (although salary levels are set at the state level);
- promotion of scientific and academic research, and technological development.

The Ministry is involved in the planning and funding of supra-regional promotion of higher education science, research and teaching. In the past, HEIs could only be supported through fixed-term programmes. Following an amendment of the Basic Law in 2015, HEIs can now be supported permanently by federal funds, including

- the three Higher Education Pacts (*Hochschulpakt I-III*) and their successor Future Agreement Strengthening Studies and Teaching (*Zukunftsvertrag Studium und Lehre stärken*) to strengthen HEIs and studies;
- Research Pact (Forschungspakt);
- Excellence Strategy, which invests in research at HEIs to increase international competitiveness.

Source: OECD (2020_[3]), Education Policy Outlook: Germany, OECD Publishing, Paris; Eurydice (2021_[4]), Germany: Administration and governance at central and/or regional level, Working paper, 6 December 2021, Eurydice; Hochschulrektorenkonferenz (n.d._[5]), "Hochschulpakt", https://www.hrk.de/themen/hochschulsystem/hochschulpakt (accessed on 8 April 2021); Eurydice (2021_[6]), "Germany: National reforms in higher education", https://eacea.ec.europa.eu/national-policies/eurydice/content/national-reforms-higher-education-25 en (accessed on 8 April 2021).

The state sets the legal and financial framework for higher education, including HEIs (Hartwig, 2004_[7]). Regulations concerning higher education are detailed in the states' constitutions (Landtag Brandenburg,

1992_[8]), separate laws and contracts (Box 3.2). Internationalisation, competition and performance orientation have become major factors in the governance and funding of public HEIs. The relationship between the state ministry – MWFK – and HEIs is, thus, increasingly shaped by agreements on targets and performance. MWFK has responsibility for financing public higher education, including remuneration and pensions of academic staff (who are civil servants) (Eurydice, 2021_[4]). HEIs, however, increasingly receive competitive funding from the Federal Ministry of Education and Research (*BMBF*).

Box 3.2. Brandenburg's regulatory framework for higher education

Several key documents shape the state's regulation of Brandenburg's higher education landscape, including:

- Brandenburg Higher Education Act (*Brandenburgisches Hochschulgesetz BbgHG*), which regulates the legal position of the public HEIs and their financing, as well as the government's steering and monitoring of the institutions.
- Brandenburg Higher Education Admission Law and Regulation (*Brandenburgisches Hochschulzulassungsgesetz* and *Hochschulzulassungsverordnung*), which dictates rules for programmes with restricted admissions at HEIs in Brandenburg.
- Higher education institutional contracts (*Hochschulverträge*), which include a general framework agreement (*Hochschulrahmenvereinbarung*) between the state and the HEIs in Brandenburg, as well as specific agreements with the individual institutions.
 - They set out HEIs' obligations, development goals, projects and financing for a five-year period; ensure close articulation between state-wide goals and institutional strategies; and provide medium-term financial planning security for HEIs.
 - o Contracts are negotiated with individual HEIs, which then create their own development plans and report to the ministry. They must regularly provide information about use of funds.
 - It is not possible to adjust the contract, which can lead to supplementary agreements.
 Furthermore, planning security decreases towards the end of the term, unless parties agree to continue the contract or clarify the shape of future contracts. This makes long-term strategic planning more difficult for HEIs.

Source: (MWFK, n.d._[9]), Rechtliche Grundlagen/Zentrale Dokumente, https://mwfk.brandenburg.de/mwfk/de/wissenschaft/rechtliche-grundlagen-zentrale-dokumente (accessed on 8 February 2021).

Other federal and state bodies and agencies assist in higher education accreditation and admission and act as the voice of higher education institutions in policy and public discussions

The Accreditation Council and the Foundation for Higher Education Admission assist in higher education accreditation and admission in Brandenburg (Kultusministerkonferenz, 2019_[2]).

- The independent Accreditation Council (Akkreditierungsrat) sets the standards for the accreditation process and authorises agencies to carry out programme accreditations (European Union, 2014[10]; Akkreditierungsrat, 2021[11]). Germany has ten accreditation agencies.
- The Foundation for Higher Education Admission (Stiftung für Hochschulzulassung SfH)
 administers and allocates nationwide restricted study places (i.e. medicine, pharmacy, veterinary
 medicine, dentistry and geoinformation management) (SfH, 2021_[12]). SfH also co-ordinates

admission to unrestricted and locally restricted programmes of several HEIs by means of a dialogue-oriented service procedure (*Dialogorientiertes Serviceverfahren – DoSV*).

The Brandenburg State Higher Education Council (*Brandenburger Landeshochschulrat – LHR*) (MWFK, n.d._[13]; Jansen, 2007_[14]) advises the ministry and HEIs in planning to ensure a balanced development of the system that draws on external expertise (MWFK, n.d._[13]) (Kultusministerkonferenz, 2019_[2]).

Brandenburg Rectors' Conference (*Brandenburgische Landeskonferenz der Hochschulpäsidentinnen und -präsidenten*) is the association of rectors and presidents of public HEIs in Brandenburg (BLHP, n.d._[15]). It promotes collaboration of the institutions and works as a forum for issues relating to research and higher education. The conference is also the voice of HEIs with politicians and the public.

The organisation of higher education institutions builds on the participation of internal stakeholders and self-governance, but actual autonomy is limited

As stipulated in the Basic Law (Art. 5, Paragraph 3), German HEIs have the right of self-administration and self-governance. This includes autonomy on academic matters and matters such as personnel and financial administration. Brandenburg's Higher Education Act distinguishes between governmental matters and self-administration and self-governance (Kultusministerkonferenz, 2019_[2]). The state ministry is responsible for legal supervision (*Rechtsaufsicht*) and, to a certain extent, academic supervision (*Fachaufsicht*). It also has final authority over financial and staffing matters (Kultusministerkonferenz, 2019_[2]).

In principle, HEIs have statutory autonomy. However, in practice – except for academia – their autonomy in Brandenburg is low compared with other systems of higher education in Germany (Dohmen and Krempkow, 2015_[16]; Babyesiza and Berthold, 2018_[17]) or Europe (EUA, 2017_[18]; EUA, 2017_[19]) (see Table 3.1 for an international comparison).

Table 3.1. Autonomy of higher education institutions in Brandenburg

Compared with 29 European systems in 2016

Autonomy aspect	Level of autonomy	Description
Organisational	Medium-low	The appointment and dismissal of presidents and rectors require approval from MWFK. The basic selection criteria for executive heads, the dismissal procedure and the term of office are stipulated by law.
Financial	Medium-low	HEIs receive annual block grant funding with no restrictions on the allocation of funding. MWFK predetermines allocation of any surpluses. HEIs cannot borrow money. HEIs cannot own buildings, but they can build assets. There are no tuition fees for first cycle and consecutive studies at HEIs.
Staffing	Medium-low	The recruitment of some senior academic staff, staff dismissal and decisions on individual staff salaries are restricted. MWFK has a say about competencies. Salary bands for presidents are negotiated with MWFK. Staff promotion depends on the availability of posts at a higher level.
Academic	From medium high to high	Overall student numbers are negotiated with MWFK. At the bachelor's level, admission is co-regulated by universities and an external authority. At bachelor's and master's levels, all new degree programmes must be submitted to accreditation. The termination of degree programmes requires negotiation between universities and an external authority.

Source: EUA (2017_[19]), University Autonomy in Europe III Country Profiles, European University Association.

The internal governance of HEIs involves internal stakeholders. HEIs are governed by a senate and managed by the executive head of the institution. The head, who is the rector or the president, may be elected by the professors of the institution, but MWFK ratifies all appointments. The rector or president may be supported by a rector's body or presidential body (Eurydice, 2020[20]). Alongside the rector or president, HEIs have a chancellor who is the head of administration and responsible for the budget. The Senate (*Senat*) oversees and plans research, academic programmes and teaching in the university. It includes representatives of the academic community and students. All members of an HEI (i.e. all those whose main employment is at the institution and all matriculated students) have some level of involvement in decision-making processes.

The basic academic organisational unit in the HEIs is the *Fachbereich* (department) or *Fakultät* (faculty). *Fachbereichsrat* (faculty council) and *Dekanat* (the dean) are the administrative heads of the department or faculties. They are responsible for all research and teaching issues (Kultusministerkonferenz, 2019_[2]) (Eurydice, 2021_[4]). *Fachbereichsrat* are usually composed of professors, students and both academic and non-academic staff.

Students usually have student bodies (*Studierendenschaften*), which are self-governing, to look after their interests. All students become members of these bodies on matriculation.

Structure of the higher education system

In the winter semester of the 2019/20 academic year, Germany had 424 HEIs. Over half were in the Western states of Baden-Württemberg (71), Bavaria (47) and North Rhine-Westphalia (69) and the capital Berlin (41). The state finances and regulates most of these institutions. However, the state officially recognises around 36% of HEIs that are private or church-run. Most students (89%) are enrolled at public institutions. Private institutions mainly attract students who wish to specialise, study in smaller groups or who could not gain admission to a state university due to restrictions (Shumelev, 2019[21]).

Brandenburg has 18 HEIs (Table 3.2). Most HEIs in Brandenburg are public institutions, catering to 98% of all students: (Statistisches Bundesamt, 2021[22]).

The higher education system is binary with institutions varying substantially in size, location and structure

German HEIs vary considerably in size. The 30 biggest institutions (which are nearly all in the West German states) provide higher education to over a third of all students in Germany. The three biggest institutions have over 50 000 students each, as many as all HEIs in Brandenburg combined. Brandenburg's biggest institution, the University of Potsdam, has 21 000 students (Table 3.2).

As with Germany in general, Brandenburg has a *binary higher education system*: state and state-accredited institutions are divided into universities and universities of applied sciences (UAS) (*Fachhochschulen*) (Hochschulrektorenkonferenz, n.d._[23]). The public higher education system in Brandenburg consists of four universities and four UAS. They are concentrated in the southern half of the state; coverage in the regions north of Berlin is limited. In addition, 2 of Germany's 30 specialised colleges of higher education (which prepare future staff of Germany's public administration and services) are located in Brandenburg: the Police University of Brandenburg (HPol BB) and the University of Applied Sciences for Finances Brandenburg (FHF). These specialised colleges cater to 3% of Brandenburg's students (Statistisches Bundesamt, 2020_[24]). There is one private sector university (Brandenburg Medical School) and five smaller UAS, including one church-run institution (Elstal Theological Seminary).

Table 3.2. Staff and student populations at higher education institutions in Brandenburg, 2019

Higher education institutions	Location	Number of students	Student population Percentage female	Student population Percentage international	Number of staff
Public universities					
University of Potsdam	Potsdam (Brandenburg's capital)	21 229	57	14	4 844
Brandenburg University of Technology Cottbus- Senftenberg (BTU)	South of Brandenburg; Cottbus, Senftenberg, Close to the Lausitz region	6 919	42	32	2 411
European University Viadrina	Frankfurt (Oder), close to the Polish border	5 992	60	26	1 020
Film University Babelsberg Konrad Wolf	Potsdam (Brandenburgʻs capital)	867	53	19	427
Public universities of appl	ied sciences				
University of Applied Sciences Potsdam (FHP)	Potsdam (Brandenburgʻs capital)	3 523	60	12	660
Technical University of Applied Sciences Wildau (THW)	Wildau (on the outskirts of Berlin)	3 696	36	16	702
Brandenburg University of Applied Sciences (THB)	Brandenburg an der Havel (west of Berlin and Potsdam)	2 678	30	20	386
University for Sustainable Development Eberswalde (HNEE)	Eberswalde (northeast of Berlin)	2 208	50	8	642
Public specialised univers	ities of applied sciences				
Police University of Brandenburg (HPol BB)	Oranienburg	763	33	9	504
University of Applied Sciences for Finances Brandenburg (FHF)	Königs Wusterhausen	731	54	-	40
Private university					
Brandenburg Medical School Theodor Fontane (MHB)	Neuruppin (in the north of Brandenburg)	438	66	7	202
Private universities of appli	ed sciences				
University of Applied Science Clara Hoffbauer (FHCHP)	Potsdam (Brandenburg's capital)	208	80	2	37
College for Sport and Management (ESAB)	Potsdam (Brandenburgʻs capital)	270	35	2	30
Elstal Theological Seminary (TH Elstal)	Elstal	58	41	16	18
XU Exponential University of Applied Sciences	Potsdam (Brandenburg's capital)	41	22	24	24

Notes: The TH Elstal is a church-run institution. Three of the private HEIs are not listed (Health and Medical University Potsdam, GISMA Business School and University of Europe for Applied Sciences) as there are no official numbers available.

Sources: Privathochschulen (n.d._[25]), Studium in Brandenburg: Private Fachhochschulen & Universitäten + alle Studiengänge, www.privathochschulen.net/hochschulen/brandenburg (accessed on 15 March 2021); MWFK (2021_[26]) Studienangebote – Duales Studium Brandenburg, https://www.duales-studium-brandenburg.de/studienangebote#&gid=lightbox-group-2255&pid=0 (accessed on 6 February 2021); Statistik Berlin-Brandenburg.de/webapi/jsf/tableView/tableView.xhtml# (accessed on 15 February 2021); Statistik Berlin-Brandenburg (2020_[28]), Personal an Hochschulen im Land Berlin 2019, www.statistik-berlin-brandenburg.de (accessed on 15 February 2021); Hochschulrektorenkonferenz (n.d._[23]), About us – Hochschulkompass, https://www.hochschulkompass.de/en/about-us.html (accessed on 7 February 2021).

More than half of all institutions in Germany are UAS; they serve about 35% of students. In Brandenburg, only a quarter of students are enrolled in the 11 UAS, despite a programme aimed to increase take-up. The limited take-up of places at the UAS likely results from the limited (if increasing) range of subjects they teach (Table 3.3). Typically, universities offer a wider range of subjects (Hochschulrektorenkonferenz, n.d._[23]).

Table 3.3. Main differences between universities and universities of applied sciences in Brandenburg

	Universities	Universities of applied sciences	
Focus in research and services provided	Mainly basic research, and provision of health care services (university hospitals)	Mainly applied research and consulting	
Importance of teaching	Equal emphasis on research and teaching	Main emphasis on teaching and coursework	
Study fields offered	All disciplines (though not offered at all universities)	Mainly engineering, business administration, social work, design	
Entrance qualification	University entrance qualification (Hochschulzugangsberechtigung, HZB)	HZB or specific Fachhochschule entrance qualification	
Degrees	Bachelor's, master's, state examination (for law, teaching, medicine, pharmacy), doctoral degree	Bachelor's, master's, doctoral degrees (no legal entitlement but in some cases in collaboration with universities)	
Programme characteristics	Emphasis on theory and research, including research- oriented final theses	Emphasis on practice, including integrated work placements and practice-oriented final theses	
Requirements for professorships	Doctorate and habilitation (or comparable additional academic achievements)	Doctorate and five years of practical career experience with outstanding achievements	
Teaching load	Professors: 8 hours per week Professors with a teaching focus: 10-12 hours per week Junior professors: 4-6 hours per week Junior professors with a teaching focus: 6-8 hours per week Academic staff: up to 24 hours per week	Professors: 18 hours Professors with a focus on research: 9-12 hours Academic staff: up to 24 hours per week	

Source: Teaching load from MWFK (2017_[29]), "Verordnung über den Umfang der Lehrverpflichtung des hauptberuflich tätigen wissenschaftlichen und künstlerischen Personals an den staatlichen Hochschulen des Landes Brandenburg (Lehrverpflichtungsverordnung - LehrVV)" (accessed on 6 February 2021).

Universities are normally more research-oriented, whereas UAS emphasise teaching, practical work and applications (Hochschulrektorenkonferenz, n.d._[23]). Teachers at UAS usually have substantial professional experience outside higher education in addition to academic qualifications. The statutory teaching load for regular professors at UAS is more than twice that of university professors. However, regulations differ for professorships focused on research (Table 3.3) (MWFK, 2017_[29]).

As a result of the Bologna Process, differences between the two types of institution are declining. Universities and institutions of equivalent status retain a "doctoral degree-granting monopoly". However, new models of co-operation are emerging. Recently, Hesse awarded its UAS the right to confer doctorates (Shumelev, 2019_[21]). Brandenburg's UAS have the right to offer doctoral studies only in co-operation with state universities.

Higher education institutions complement each other in their teaching and research profiles, providing students and the economy with specialised expertise

Brandenburg's HEIs differ in study and research profiles (see Table 3.4). The University of Potsdam offers a wide range of fields of study. Conversely, the others have specialised in specific areas, often orienting their study and research portfolio towards the regional labour market.

Table 3.4. Teaching and research profiles of higher education institutions in Brandenburg

institutions	Location	Programmes	Faculties/departments
University of Potsdam	Potsdam (Brandenburg's capital)	162 programmes (the only HEI offering teacher education); right to confer doctorates	7 faculties: Human sciences, law, mathematics and science philosophy, business and social sciences, digital engineering
Brandenburg University of Technology Cottbus- Senftenberg (BTU)	South of Brandenburg; Cottbus, Senftenberg, part of the Lausitz region	Over 74 programmes; right to confer doctorates	6 faculties: MINT; environment and natural sciences; mechanical engineering, electrical and energy systems; socia work, health care and music; business, law and social sciences; architecture, civil engineering and urban planning
European University Viadrina	Frankfurt (Oder), close to the Polish border	24 programmes (international focus); right to confer doctorates	3 faculties: Law; social and cultural sciences; business administration and economics
Film University Babelsberg Konrad Wolf	Potsdam	23 programmes, includes dual study	2 faculties: Script/dramaturgy, digital media culture, media studies, film cultural heritage, film and television production, directing and acting Animation, animation direction, creative technologies, cinematography, film music, montage, sound, sound for picture and scenography
University of Applied Sciences Potsdam (FHP)	Potsdam	23 programmes (engineering, to sociocultural and design),	5 departments: Social and educational sciences; architecture and urban planning; civil engineering; design; information sciences
		includes dual study	
Technical University of Applied Sciences Wildau (THW)	Wildau (on the outskirts of Berlin)	includes dual study 45 programmes, includes dual study	2 faculties: Engineering and natural sciences; business, computing and law
Applied Sciences Wildau (THW) Brandenburg University of Applied Sciences		45 programmes,	
Applied Sciences	of Berlin) Brandenburg an der Havel (west of Berlin and	45 programmes, includes dual study 20 programmes, includes	computing and law 3 departments Computer science and media; engineering business and
Applied Sciences Wildau (THW) Brandenburg University of Applied Sciences (THB) University for Sustainable Development	Brandenburg an der Havel (west of Berlin and Potsdam)	45 programmes, includes dual study 20 programmes, includes dual study 16 programmes, includes	computing and law 3 departments Computer science and media; engineering business and managemen 4 faculties: Forest and environment; landscape managemen and nature conservation; wood engineering; sustainable
Applied Sciences Wildau (THW) Brandenburg University of Applied Sciences (THB) University for Sustainable Development	Brandenburg an der Havel (west of Berlin and Potsdam)	45 programmes, includes dual study 20 programmes, includes dual study 16 programmes, includes	computing and law 3 departments Computer science and media; engineering business and managemen 4 faculties: Forest and environment; landscape managemen and nature conservation; wood engineering; sustainable

Brandenburg Medical School Theodor Fontane (MHB)	Neuruppin (in the north of Brandenburg)	3 programmes within health and human medicine	
University of Applied Science Clara Hoffbauer (FHCHP)	Potsdam	3 social sciences programmes	
Elstal Theological Seminary (TH Elstal)	Elstal		
College for Sport and Management (ESAB)	Potsdam	8 programmes in health and economics (also as dual degrees)	
Health and Medical University Potsdam (HMU)	Potsdam	1 health programme	
XU Exponential University of Applied Sciences	Potsdam	1 programme in informatics	

Source: Privathochschulen (n.d._[25]), Studium in Brandenburg: Private Fachhochschulen & Universitäten + alle Studiengänge, www.privathochschulen.net/hochschulen/brandenburg (accessed on 15 March 2021); MWFK (2021_[26]) Studienangebote – Duales Studium Brandenburg, https://www.duales-studium-brandenburg.de/studienangebote#&gid=lightbox-group-2255&pid=0 (accessed on 6 February 2021); Statistik Berlin-Brandenburg (2019_[27]), Studentenstatistik, https://www.statistik-berlin-brandenburg.de/webapi/jsf/tableView/tableView.xhtml# (accessed on 15 February 2021); Statistik Berlin-Brandenburg (2020_[28]), Personal an Hochschulen im Land Berlin 2019, www.statistik-berlin-brandenburg.de (accessed on 15 February 2021); Hochschulrektorenkonferenz (n.d._[23]), About us – Hochschulkompass, https://www.hochschulkompass.de/en/about-us.html (accessed on 7 February 2021).

Higher education programmes

As a result of the Bologna Reform, bachelor's and master's programmes are the standard.

Almost half of all study programmes offered in Brandenburg's HEIs can be taken on a part-time basis, allowing flexibility for students (CHE, 2020_[30]). The share is higher at universities (over half of all programmes), and for cultural studies and teacher education programmes (three-quarters of all programmes). However, only 2.5% of all students in Brandenburg were part-time students in 2018/19, well below the German average of 7.5%. Among the public HEIs, the Film University Babelsberg (with 15.4% as part-time students), the TH Wildau (10.5%) and the University of Applied Sciences Potsdam (9.7%) have been forerunners.

Dual study programmes are increasingly being offered, integrated into the regular study offer and centrally co-ordinated

Dual study programmes combine academic studies with work experience in a company and vocational training. They can be training-integrated, career-integrated or practice-integrated (see Table 3.5). Such programmes offer an academic degree along with valuable practical experience and many professional skills. In some cases, graduates also receive a vocational degree.

Table 3.5. Brandenburg's types of dual study programmes and number of students

Type of dual study programme	Organisation	Content	Degrees	Number of dual studies students and their share of all students
Training- integrated	The degree programme is combined with training in a recognised occupation requiring formal training.	Study phases and vocational training are linked in terms of time and content.	Students gain a first degree that qualifies them to practise a profession and a vocational training degree.	296 students (21% of all dual study students)
Practice- integrated	Study phases alternate with practical phases in a company.	The content of the courses at the higher education institution and the content of the practical training are related.	Students gain a first degree that qualifies them to practise a profession but not a qualification in a recognised occupation requiring vocational training.	First academic degree: 1 103 students (77% of all dual study students) With further degree: 15 students (1% of all dual study students)
Career- integrated	Academic studies are combined with vocational further training. Alongside full-time employment, students learn largely through self-study in a manner similar to a distance learning course.	The learning content of academic and vocational further training is connected.		20 students (1.4% of all dual study students)
Overall				1 434 (3% of all students)

Source: MWFK (2021_[26]) Studienangebote – Duales Studium Brandenburg, https://www.duales-studium-brandenburg.de/studienangebote#&gid=lightbox-group-2255&pid=0 (accessed on 6 February 2021); Statistik Berlin-Brandenburg (2019_[27]), Studentenstatistik, https://www.duales-studium-brandenburg.de/studienangebote#&gid=lightbox-group-2255&pid=0 (accessed on 6 February 2021); Statistik Berlin-Brandenburg (2019_[27]), Studentenstatistik, https://www.duales-studium-brandenburg.de/studienangebote#&gid=lightbox-group-2255&pid=0 (accessed on 6 February 2021); Statistik Berlin-Brandenburg (2019_[27]), Studentenstatistik, https://www.statistik-berlin-brandenburg.de/webapi/jsf/tableView/tableView.xhtml# (accessed on 15 February 2021).

Since 2014/15, MWFK has funded the creation and expansion of dual study programmes (Box 3.3) and has set up a dual study agency to co-ordinate the dual study offers at HEIs.

Dual programmes are expensive for HEIs, as they require staffing to manage the liaison with the partner companies. Finding appropriate training partners among local companies is difficult. In addition, company staff need support to mentor and train students in the workplace (given they are not education professionals) and the learning of students on the job needs to be supervised.

Stakeholders, including businesses, support the expansion of dual study programmes. However, employers' investment does not always pay off because some graduates do not remain with the training company. In addition, some graduates prefer to pursue a master's degree, instead of employment, after completing the initial qualification. Companies invest significantly in each student without the guarantee they would stay as employees upon graduation. Nevertheless, dual studies have proven useful to retain a skilled workforce in Brandenburg's business sector.

Box 3.3. Purpose of expanding dual study programmes

Dual study programmes promise to create "win-win situations" for students, companies and higher education institutions (HEIs) by:

- combining the advantages of scientific training at a university with the practical relevance of company-based training;
- providing good career prospects for students, including the possibility of being hired by the company after graduation;
- providing HEIs with the opportunity to sharpen their profile and thus improve their competitive position;
- linking partner companies closely with higher education and research, and, thus, promoting innovation and knowledge transfer and supporting business succession;
- producing doubly qualified staff for regional companies, in particular, for middle management and business succession;
- increasing the permeability between upper secondary and higher education and, thus, decreasing the competition between the two and exploiting their full educational potential;
- reducing the risk of shortages of skilled workers in the region because dual study students who
 commit to a company during their studies are more likely to remain in the company and region
 after graduation.

Continuing education and training have potential in Brandenburg, but financing is challenging

Given the impact of the ageing population and workforce on Brandenburg's economy, continuing education and "lifelong learning" are becoming increasingly important for maintaining a highly skilled workforce. Continuing education – including at HEIs – is increasingly seen as a viable solution for upskilling and reskilling of the workforce (Nedelkoska and Quintini, 2018_[31]).

All public HEIs in Brandenburg offer some continuing education and training (CET) courses. These courses mainly target workers with a first professional qualification who have been in the workforce since graduation. Courses are adapted to this target group in terms of both content and pedagogical approach. Rather than only targeting higher education graduates, courses are open to everyone who wants to acquire the skills but without the time commitment needed for a complete study programme.

Brandenburg's offerings in continuing education come predominantly in the form of master's degree programmes offered in parallel with work. There is a recent trend towards certificates or modules – alternative credentials that reduce the time commitment, provide greater flexibility to participants and, thus, lower potential participation barriers. Most HEIs have developed a system for awarding European Credit Transfer and Accumulation System credits for these credentials. However, their stackability towards a full degree and recognition between institutions remain obstacles, not only in Brandenburg, but also throughout Germany and Europe.

Funding for CET offerings

Public HEIs face high legal uncertainty about CET funding. HEIs considering use of public funds for continuing education need to consider that funding in the light of EU state aid policy. This policy ensures public subsidies (state aid) are not used by firms to compete unfairly, or by state agencies to crowd out markets (economic activity). Continuing education is defined in *Brandenburgisches Hochschulgesetz*

(Brandenburg Higher Education Act) as a statutory duty of state HEIs, just like undergraduate education and research. HEI research and undergraduate education are classified as non-economic activities and thus not subject to EU state aid rules. However, neither the European Commission nor the European Court of Justice has provided any clear directions about whether continuing education is a non-economic activity and thus exempt from EU state aid rules. CET programmes are judged individually as economic or non-economic. The relevant federal body – *Kultusministerkonferenz* (Assembly of Ministers of Education of German states) – has not resolved state aid questions either.

As a result of the legal uncertainty, HEIs risk non-compliance with EU state aid rules. This may result in reclamation of base funding if CET courses are classified as non-economic activities. If CET courses are classified as economic activities, which might be otherwise non-economic, HEIs prevent risk. However, CET is priced as full-cost recovery. Hence, HEIs in Brandenburg avoid offering continuing education or else offer courses in the high-price segment. They may also manage risks through associated institutes. These could be established as incorporated societies (eingetragener Verein (e.V)) or limited liability companies), (Gesellschaft mit beschränker Haftung, GmbH which bear high risk as well (OECD, 2022_[32]).

Federal states in Germany have adopted different opposing approaches to this question in their higher education laws. Some accept that CET is an economic activity, while others classify it as a non-economic activity outside the scope of state aid rules. Against this background, Brandenburg's offer of CET programmes and courses appears low (Wissenschaftsrat, 2019[33]). Continuing education takes many different forms – from structured degree programmes to modules and certificate courses. It could still be relevant for workers affected by adoption of new technologies or structural change, or who seek jobs in fields with a shortage of skilled workers.

The federal government, in co-operation with the states, ran the EUR 250 million "Advancement through Education: Open Universities" programme, which aimed to encourage CET at HEIs over 2011-20 (BMBF, 2021_[34]). New CET courses at several of Brandenburg's HEIs were developed through this initiative.

Financial assistance for participating in CET

Within the federal government's strategic agenda for CET/lifelong learning, measures may become increasingly available to support the reskilling and upskilling of Brandenburg's workforce. With its most recent amendment, the federal assistance for continuing education and training (*Aufstiegsfortbildungsförderungsgesetz*, AFBG) provides funding for adult learners participating in CET. This includes some courses at HEIs (if the participant's highest educational attainment is at the bachelor's level or below).

The federal government also provides grants to support continuing education measures for young people in employment. To qualify, they must have completed a recognised course of vocational education and training or work in one of the health sector professions governed by federal law. They must also be younger than 25 when they start the programme (Continued Training Scholarship). The programme is assisted by *Stiftung Begabtenförderung berufliche Bildung gGmbH* – SBB (Foundation Vocational Education and Training Promotion for Gifted Young People).

Against the background of federal funding, Brandenburg suspended *Bildungsscheck*, its voucher programme. This used to fund continuing education for Brandenburg's workers outside of their companies and was widely used for CET courses at HEIs. MWAE is considering reintroducing a more modest version but with no provision for HEI courses.

Brandenburg's HEIs offer double and joint degree programmes with peers abroad

All of Brandenburg's public HEIs co-operate with peers abroad. Several HEIs, particularly the BTU, the University of Potsdam and the Viadrina, offer double and joint degrees with institutions abroad (European University Viadrina, 2021_[35]; BTU, 2021_[36]; Universität Potsdam, 2021_[37]). In this sort of joint, combined or

dual programme, a student works for two university degrees in parallel – either at the same institution or at different ones – and completes them in less time than it would have taken to earn them separately. Upon the student's successful completion of the study, both institutions confer their own degree certificates or else the student receives a shared degree certificate (Table 3.6).

Table 3.6. International co-operation of Brandenburg's HEIs

University of Potsdam	86 higher education and research institutions from 30 countries
Brandenburg University of Technology Cottbus-Senftenberg	222 institutions from 63 countries
European University Viadrina	274 institutions from 52 countries
Film University Babelsberg Konrad Wolf	27 institutions from 17 countries
University of Applied Sciences Potsdam	78 institutions from 26 countries
Technical University of Applied Sciences Wildau	72 institutions from 38 countries
Brandenburg University of Applied Sciences	76 institutions in 41 countries
University for Sustainable Development Eberswalde	38 institutions in 26 countries

Public funding for higher education institutions

State funding has been continuously increasing

Brandenburg's government funding (*Globalbudget, Topf 1*) is divided into three pillars: base funding, demand-based funding and performance-based funding. Most (40%) of the allocation is distributed via the base funding. Demand-based funding and the performance-based component each account for 30% of the budget. A working group, with representatives from both MWFK and HEIs, advises on allocation of funding.

- Of the *Grundbudget* (base funding), in 2020, the University of Potsdam received 39%, the BTU Cottbus-Senftenberg 28%, the Europa Universität Viadrina 8.8%, the University of Applied Sciences Potsdam 6.2%, the Technical University of Applied Sciences Wildau 5.9% and the three remaining HEIs below 5% each.
- For the nachfrageabhängig (demand-based funding), the shares of the HEIs are calculated on the basis of their student numbers and the teaching load required. It only considers students in study programmes financed from the basic funding of the HEIs or the study place extension programme. This excludes fee-financed continuing education programmes from the calculation. To consider the variation in underlying cost structures, HEI shares in the demand-based funding are calculated depending on the HEI type. The formula yields the following results: universities receive 71%, UAS receive 25% and the Film University Babelsberg receives 4%.
- The sum available in the Leistungsteil (performance-based component) is distributed according to seven indicators: graduates, third-party funding (without commercial industry), third-party funding (from commercial industry), doctorates, international students, Erasmus and female professorships.

During the last decade, Brandenburg's government significantly improved funding of HEIs, which is reflected in indicators of revenue per student and per professor. Brandenburg's higher education system as a whole has reduced its disadvantage relative to other federal states and is now close to the national average. In the legislative period 2019-23, the base funding is increasing by EUR 25 million over the previous period. This means that HEIs receive EUR 5 million more each year, conditional on approval of the state parliament. In addition, the state government provides EUR 200 million more (as compared to the previous period) to HEIs to serve their obligations within the HEI contracts (Topf 3) over the same five-year period (MWFK, n.d.[9]).

Despite the steady rise in the global budget of recent years, Brandenburg spends the least among the German federal states on HEIs as a percentage of its gross domestic product (GDP) – 0.51% in 2019. Moreover, the state's contribution to research is minimal. By contrast, the state's contribution to general education and vocational schools as a share of GDP (2.64% in 2019) has remained consistently above the German average – similar to other East German federal states and Berlin.

The federal 2020 Hochschulpakt and its successor is an important source of funding for Brandenburg's HEIs

The 2020 *Hochschulpakt* (Pact I 2007-10, Pact II 2011-15, Pact III 2016-20), Topf 2, was an agreement between the federal government and the federal states based on three pillars: admission of additional first-year students, a flat rate for projects funded by the German Research Foundation (DFG), quality pact for improved teaching. In addition, there is some federal lump-sum funding for projects financed by the German Research Foundation to secure the needs-based expansion of study courses by 2020. With its successor, *Zukunftsvertrag "Studium und Lehre stärken"* (Future Contract) signed in June 2019, Brandenburg is expected to receive around EUR 35 million in federal funds until 2027. From 2024 onwards, including state co-financing, Brandenburg's HEIs will have received around EUR 70 million to implement the goals, priorities and measures stipulated in Verpflichtungserklärung (letter of intent) including, among others (MWFK, 2020_[38]):

- maintain the capacities of HEIs and make better use of them;
- further improve the quality of studies to improve completion;
- create new teaching capacities according to needs and subjects;
- achieve a noticeable increase in the quality of teaching by converting many temporary contracts into permanent ones.

The number of students at state HEIs increased by over 57% over 2000-12 (when the highest number of students was reached in Brandenburg). However, the growth in academic staff numbers did not keep pace. HEIs used the study place expansion programme of *Hochschulpakt* 2020 to increase their faculty staff numbers via temporary positions.

The state government offers diverse incentive structures for academic staff

Research professorships are offered at UAS, which allow a concentration on applied research and have played a pioneering role nationwide in its diversification. Similarly, teaching professorships at universities have provided a career path for academic staff involved predominantly in teaching. Since 2018, Postdoc Network Brandenburg has funded research group leaders and fellowships for visiting researchers at Brandenburg universities to build greater ties. In addition, the "Future Programme for the Universities of Applied Sciences of the State of Brandenburg" was set up in 2018 (MWFK, 2018[39]). This provides incentives for co-operative doctoral colleges, development of structured career paths at the UAS and promotes new research and teaching. In combination with the increase in basic funding, HEIs appear in better position to set up more attractive career paths.

Moreover, in late summer 2020, MWFK initiated a two-year long structured dialogue *Gute Arbeit in der Wissenschaft* (Good work in science) with HEIs and interest groups (MWFK, 2020_[40]). These range from staff representatives, trade unions and post-docs to professors, inclusiveness officers, students and the commissioner for the severely disabled. They discuss recommendations for further improvements in the area of career development for young researchers. They also explore additional permanent positions beyond professorships to feed these recommendations into the Higher Education Act.

Some HEI stakeholders, however, emphasised the need for flexibility given the evolving needs of the economy and research. They see Brandenburg's HEIs and research institutes as laying the foundation for

scientific careers. Fraunhofer, Leibnitz and the universities, for example, "enable" young people for a scientific career, who then leave Brandenburg to continue their careers. Continuity at HEIs, however, is maintained by the professors and the administrative structures of the institutions.

Assessment and policy recommendations

Technology and national and global competition, along with the changing organisation of work, are driving the transformation of Brandenburg towards a more knowledge-intensive economy. This, in turn, shifts demand towards higher-level skills and qualifications. The services sector and the knowledge-intensive industries (professional, scientific and technical activities) and education and health care sectors have seen the largest growth in employment in recent years and are projected to continue to experience growth. At the same time, the wide adoption of new technologies is changing the nature of jobs and increasing the skills needed for them (Nedelkoska and Quintini, 2018[31]). Brandenburg's higher education system will need to offer a broad range of qualifications¹ for the labour market to exploit economic opportunities from these developments and to ensure no one is left behind. This includes developing opportunities for upskilling of the working population.

Ensure the system offers a broad range of qualifications

Diversity of the system

HEIs need a balanced offering of teaching programmes that reflect student and labour market demand and that are underpinned by excellent scholarship and research. In their research and education programmes, HEIs have some specialities that perform especially well and that have gained a reputation for excellence (such as computer science at *Technische Hochschule Brandenburg* (TH Brandenburg), business studies at EUV (*Europa Universität Viadrina*) Frankfurt/Oder, and social work studies at FH Potsdam, among others, as represented in German-wide rankings (CHE, n.d.[41])). These areas of excellence should be the focus of additional state government and HEI investment. They should also be advertised extensively, including via online marketing, to draw the interest of prospective students and leading researchers. This would further lift the performance of those research groups and encourage the exploration of opportunities for knowledge transfer. Excellent research and education across a wide range of fields can also encourage businesses to build deeper relationships with HEIs that lead to the provision of extra services and, possibly, to locate branches of those firms in the state.

Brandenburg's government has successfully promoted the diversity of the higher education system through institutional specialisation. It should maintain this through the framework agreements, while allowing institutions autonomy in how they will achieve these goals. A continuous dialogue between the HEIs, the world of work and government can ensure timely adjustment and sharpening of institutional profiles.

The programme accreditation process

The accreditation process of new study programmes involves approval by an independent accreditation agency and MWFK, and in some cases another relevant ministry. The process can take more than six months, which HEIs perceive as relatively slow. The establishment or modification of new courses can also be contractually agreed between MWFK and the HEI, but this is exceptional.

The programme approval process by MWFK has two objectives. Above all, it seeks to uphold the quality of new programmes so the HEI has an appropriate curriculum and qualified staff. Secondly, it aims to ensure the efficient use of public resources in HEIs. To that end, it aims to avoid a potentially wasteful proliferation of publicly subsidised programmes with low enrolment and high staff costs, while ensuring the system offers a broad range of qualifications.

While six months may seem a long time to wait, the HEI can use the time to refine the curriculum and develop its delivery approach, hire staff and build a market for the programme.

A balance is required between the needs of MWFK and HEIs. Through its oversight function, MWFK needs to maintain the quality, credibility, integrity and reputation of the qualifications system, while HEIs want to adapt their programme offerings to changing demands from students and employers. A good accreditation system will also build in a post-implementation review cycle. This would ask how well the new programme has met targets for enrolment, student and employer satisfaction, and graduate labour market outcomes. MWFK and HE rectors should jointly reassess the process, evaluating whether objectives have been attained, whether the process stands in the way of good outcomes and whether the post-implementation review stage works well.

Dual study programmes

The provision of dual study bachelor's programmes has recently attracted many students and is expected to grow. Such programmes usually require more staff for several reasons. First, the cost of co-ordinating the programme design with the companies offering traineeships is high. Second, the costs of supporting the workplace trainer (who is not an education professional) and of supervising the student in the workplace are also high. Third, it can be difficult to find training partners among local companies. Up to now, dual studies have proven a successful model for Brandenburg. They serve the needs of the regional and local economy, while attracting students who would otherwise opt out of higher education.

Encourage reskilling and upskilling

Meeting the higher education needs of those in work

Along with dual study programmes, HEIs are expected to offer other formats of higher education for employed students, including bachelor's programmes in parallel with work. Demand for upskilling and reskilling among working adults is expected to increase. At the same time, many students discontinue their studies to pursue an employment opportunity. Consequently, the higher education offer needs to become more flexible and compatible with work. Furthermore, Brandenburg can take steps to facilitate transition towards degree-awarding higher education programmes. Such degrees can recognise prior learning and short-cycle tertiary programmes – micro-credentials – as part of both higher education programmes and the national qualifications framework.

There are opportunities to use digital approaches to counselling and preparatory offers. These could target professionally active people who often cannot take advantage of face-to-face offers due to work and family obligations. In addition, business stakeholders pointed to the potential of digital study to motivate employees in companies in remote rural areas to participate in education and training.

The government plays an important role in informing adult learners about the value, requirements and outcomes of higher education for adults (including continuing education). The *Arbeitsagentur* website offers a step-by-step guide for mature learners, depending on the reason for their interests in returning to study. Adult learners can also assess their preparedness for further education based on their social and work behaviour, skills and interests. This information would need to be properly linked to the educational offer in Germany and Brandenburg (see Chapter 4).

Continuing education and training

The need for reskilling and upskilling raises the issue of the provision, take-up and funding of CET, which can enable firms to manage more complex work that results from developments in technology. CET can also help people stay longer in the workforce, which is crucial for several reasons. Life expectancy is growing; the health and mobility of older people is improving; and the traditional working age population is

shrinking as a proportion of the whole. Therefore, the federal government has developed a lifelong learning strategy.

These trends raise important policy questions:

- How should CET be structured, quality-assured and credentialed?
- How should the costs of CET be distributed between employers, workers and the government?

Some workers continue their education through modules of qualifications. However, those modules may not be suitable for their schedule, or match the scale and focus needed for retraining. Brandenburg's MWFK and HEIs should consider a systematic approach to CET via micro-credentials (OECD, 2021_[42]). Micro-credentials are "small" by definition. As such, they can target (both in terms of administration and timing) the needs of those who want retraining. They can be made stackable so workers can get early recognition of their training but also accumulate a more substantial portfolio of retraining over time.

Micro-credentials are particularly suited to CET for workers who have completed their initial education and, in many cases, an initial higher education qualification. While micro-credentials can be made to be stackable, they are less suitable for use in initial higher education qualifications. An HEI degree constitutes a coherent whole, a logical composition of modules. Conversely, stacking modules might not lead to a learning pathway whose components are inter-dependent and create a coherent whole (Wheelahan and Moodie, 2021_[43]) (see Box 3.4 for the European consultation process on micro-credentials).

The take-up of continuing education among German workers is around tenth in the OECD, above the OECD average. Around half of German workers took some formal or non-formal training in the 12 months before they took the OECD Survey of Adult Skills – 10 percentage points below the leading nations. However, survey results show that around 30% would prefer more training (OECD, 2021_[44]). The main obstacle to take-up of CET is lack of time. This could be insufficient time to fit training around either work or family obligations (OECD, 2021_[44]). Collaboration between HEIs and local companies, including small and medium-sized enterprises (SMEs), could help raise awareness about the need for continuing education among employers and their employees. It could also help adjust the educational offer to better address the needs of the economy (see Chapter 6).

Cost is also a constraint, although less important than time. Brandenburg requires CET to be self-funding. Consequently, cost may reduce its demand for CET to a greater extent than in German states (and other OECD countries) where there is some public funding for CET. The complexity of the right of HEIs to use public money to fund certain CET courses in the European Union is elaborated in *Continuing Education and Training in Brandenburg and EU Framework on State Aid* (OECD, 2022_[32]). Appropriate financial aid support for participating in CET, including at HEIs, should be in place as well.

Box 3.4. An emerging European approach to micro-credentials

The European Commission has proposed a "European approach to micro-credentials". This approach aims to improve the transparency and portability of micro-credentials, ease recognition processes and enhance uptake.

The European Commission's approach involves:

- 1. a common and transparent definition;
- 2. a defined list of critical information elements to describe micro-credentials;
- 3. alignment to National Qualifications Frameworks and the European Qualifications Framework: defined levels, standards for describing learning outcomes;
- 4. quality assurance standards;
- 5. defined credits comprising the European Credit Transfer and Accumulation System (ECTS), defined learning outcomes and notional workload;
- 6. recognition for further studies and/or employment purposes;
- 7. portability through issuing, storage and sharing of micro-credentials;
- 8. platform solutions for the provision and promotion of courses leading to micro-credentials;
- 9. incentives to stimulate the uptake of micro-credentials.

The consultation group recommends that micro-credentials and the certification of completion should be clearly identified as a micro-credential (as opposed to a full degree) and be linked with the ECTS as far as possible. They could be stacked – i.e. combined to provide enough flexibility for larger sizes of learning units, to meet the different national, institutional and sectoral practices and contexts.

However, the Commission's report stops short of allowing for a combination of micro-credentials to make up a full degree. The underpinning argument is that a university degree constitutes a coherent whole and a logical composition of modules. As such, it cannot be achieved by stacking modules that might not consider a specific learning pathway, mutual dependency and coherence.

The relative prominence of lifelong learning in national policies will likely impact institutional priorities regarding their commitment to further education through micro-credentials. Members of the consultation group commonly believe that micro-credentials need to be underpinned by a comprehensive strategy with clear targets, operational plans and allocated resources. This strategy must be clearly communicated throughout an institution and shared with external stakeholders to instigate a cultural change.

Source: European Commission (2020_[45]), *A European Approach to Micro-credentials*, https://education.ec.europa.eu/sites/default/files/document-library-docs/european-approach-micro-credentials-higher-education-consultation-group-output-final-report.pdf.

Policy recommendations

Box 3.5. Policy recommendations to ensure the system offers a broad range of qualifications and to encourage re/upskilling

Diversity and excellence

- Maintain the system of institutional specialisation and invest in areas of excellence through the framework contracts with HEIs underpinned by continuous dialogue between the rectors' conference, MWFK, other government agencies and employer groups.
- Advertise areas of excellence extensively, including via online marketing, to draw the interest
 of prospective students and leading researchers, further lift the performance of those research
 groups and encourage the exploration of opportunities for knowledge transfer.

Study offerings, pathways and accreditation

- Ensure that programme delivery is structured (e.g. offering hybrid teaching and using blended learning) and timetabled (e.g. with evening tutorials) to reduce disadvantages for part-time enrolment and to increase the compatibility of study schedules with work. This would respond to the projected increase in demand for upskilling and reskilling among working adults and the reality that many students discontinue their studies to pursue employment or for financial reasons.
- Investigate mechanisms for improving access to study programmes, including bachelor's degrees to be studied in parallel with full-time employment.
- Review the structure of continuing education and training (CET) programmes, considering new developments such as the advent of micro-credentials.
- Review the processes for initial programme approval and accreditation, balancing the need for high standards of integrity and credibility (through assessment of the quality of programme design and institutional capability) with the need to be responsive to the needs of employers and industry groups. Introduce better systems of follow-up audits of approved programmes, (such as checking the performance of new programmes in attracting enrolments, producing graduates, delivering good outcomes for graduates and meeting employer/industry needs).

Public funding for HEIs

- Secure available funding and infrastructure for dual study programmes.
- Secure funding for bachelor's degree programmes, which can be studied in parallel with fulltime employment
- Review options for CET, recognising the importance of compliance with European Union rules on state aid.

Financial assistance for participation in CET

 Monitor the effectiveness of federal financial assistance to participants in CET; potentially reintroduce a state-specific measure to provide targeted support for uptake of CET at HEIs (similar to the recently discontinued support measure *Bildungsscheck*).

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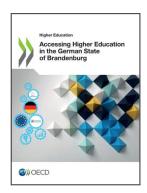
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Notes

¹ The offer should be comprehensive, including study programmes in social sciences and humanities. The skills acquired within higher education and via internships are transversal enough to provide for careers in the technology-intensive industries as well.



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