

The education of surveying engineers in the offices
of land surveying in the different states of the
Federal Republic of Germany
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Summary

After examination of the engineers in the universities they normally have special education in the offices of land surveying. A synopsis is given to their work during this time in the different states of the Federal Republic of Germany with a special regard to photogrammetry.

0 Preliminary remarks

There are different levels of development in government service careers in the FEDERAL REPUBLIC OF GERMANY: The basic level, the intermediate level, the advanced and the higher, or management, level. The last two levels require that the individual possess a university degree. The basic and intermediate levels do not require a university degree, but formal education is necessary before entering a job of the intermediate level. The purpose of the education at a university is to ensure that all candidates have a basic knowledge of the sciences. Further education at the specific government agency then helps the individual to use their basic knowledge of science and connect it with effectively performing work.

After final examinations at the university, students in West Germany can immediately enter the job market. But students will normally receive special education through internship programs in the offices of local governments and municipalities. For the advanced degree of the government service career a "first examination" of a university is required (in Germany known as the "Fachhochschule" Examination) and for the management degree a "second examination" of a university is required (in Germany known as the "Universität" or "Technische Hochschule"). There is no difference in the education in the government services between surveying, photogrammetry and remote sensing but a special program for mapping persons do exist.

1 Internship education in the office after the first examination of a university (Fachhochschule)

This education differs from state to state in W.Germany. There are special rules for the education in the municipal and government part together but also quite different lines for education exists. A synopsis of the different rules is given in the synopsis 1.

Synopsis 1

The education in the government agencies after the first examination of a university

State of the FRG Federal authorities	Bayern	Baden- Württemberg	Hamburg	Hessen	Nieder- sachsen	Nordrh.- Westf.	Rheinl.- Pfalz	Schleswig- Holstein	Railway- authority	Navigable office
Legal rules	VermZOPogD v.1.3.83	APrVermgD v.22.12.80		ErI.HMdf 19.12.66	APVogD 31.1.75	VO IM 20.7.78	VO 19.8.82	ErI.MdI 30.11.76	APO DS046 1.4.80	LAP0gtD 12.10.81
special education requirements	+ + + + 32	+ + + + 32	+ + + + 35	+ + + + 35	+ + + + 35	+ + + + 32	+ + + + 32	+ + + + 32	+ + + + 32	+ + + + 32
maximum person's age time of education in weeks	78	78	78	78	52	52	78	78	52	32
1. normal authority	13	13	5	17	9	4	8	22	8	78
2. land surveying	66	9	14	9	4	4	44	9	5	25
special photogram.2)	20	4	5	5	30	9	22	5	-	-
3. cadastral surveying	4	25	30	30	30	9	9	13	11	9
4. other surveys									11	36
5. field and urban clearing		17	12	4	4	9		9	1	
6. special time to choose	4	9	7			13	13	13		8
7. course of instruction				14	13	13		6	16	
Examination										
1. practical	+			+			+	+	+	+
2. written	+	+		+	+	+	+	+	+	+
3. oral	+	+		+	+	+	+	+	+	+
special task outside of the office	-	ÖbVI	-	ÖbVI	-	-	-	-	-	-

1) after this you will find the special times for the education in land surveying

2) time in dimension of days

The synopsis above shows you, that the education will last from one to three years in the different organizations and as a part of it only one to four weeks in photogrammetry. It is evident that during this time nobody will become a photogrammetrist. This level can only be achieved if the student gets both knowledge and practical experience from training on the job or from such special schools as the International Institute for Aerial Surveys and Earth Sciences (ITC) in Enschede (Netherlands), International School for Photogrammetry Operators (SSPO) in St.Gallen (Switzerland) and in the International Advanced Training Center for Photogrammetry Operators (IPO) in Stuttgart (Federal Republic of Germany).

After the examination for this education in the offices most of the applicants remain at the agencies in the career level of the advanced degree. Some of them will go to private firms.

2 Education in the offices after the second examination at a university

This education is very similar in the various states of the Federal Republic of Germany and conducted by central examination institute, called "Oberprüfungsamt" (OPA).

Only the states of Bayern and Baden-Württemberg have their own rules. Some special rules in the different states are necessary because in some states cadastral surveying is attached to the municipalities and in other states to the government and sometimes to the central land surveying offices. A synopsis of these rules^{for} education is given in the synopsis 2.

The education in the government agencies after the second examination of a university

State of the FRG	Bayern VermZAP0hD 27.5.77	Baden- Württemberg APrVermhD 3.2.78	Hamburg	Hessen RdErL. 19.11.73	Nieder- sachsen VO 25.9.73	Nordrh.- Westf. VO 24.10.74	Rheinl.- Pfalz VO 15.7.74	Schleswig- Holstein ErL. 22.11.73
legal rules								
maximum person's age	32	35	35	35	35	104	104	104
time of education in weeks	104	104	104	104	104	104	104	104
1. cadastral survey	22	26	24	18	18	24	18	21
2. field and urban clearing	36	48	36	30	30	37	30	32
3. land surveying	18	9	12	11	11	11	11	12
4. special time to choose	8	-	13	12	12	13	12	13
5. course of instruction	12	-	4	10	10	-	10	11
6. normal authority	8	8	9	-	14	19	-	9
Examination	LVA	IM	OPA	OPA	OPA	OPA	OPA	OPA
1. office	-	-	6	6	6	6	6	6
2. written task at home	-	+	-	-	-	-	-	-
3. practical	+	+	+	+	+	+	+	+
4. written	+	+	+	+	+	+	+	+
5. oral	+	+	+	+	+	+	+	+

The synopsis above shows you that this education will normally last two years. Photogrammetry is only instructed in three to seven days. The aim is to inform the applicants in photogrammetric methods. To become a photogrammetrist they have to study photogrammetric theory and gain practical experience by themselves. This may be supported by special courses at the universities like the "Photogrammetric Weeks" in Stuttgart in the Federal Republic of Germany.

About 180 persons succeed every year in examinations for this higher level. They can get a job
in the government's offices for land surveying
in the offices for cadastral surveying
in the municipal surveying offices
in the rural or urban clearing offices
in the federal authorities (e. g. military tasks, navigable tasks)
in the offices for road constructions
as an engineer for surveying authorized by the government^{or} in private firms

3. Final remarks

During internship education in the various government surveying offices, specialization is discouraged. By providing a broader scope of training, the chances of successfully finding a position in more areas is increased.

The job of a photogrammetrist is a unique specialty. Prospective photogrammetrist must mainly take care to educate themselves by getting the necessary training in theory and practical application.

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