

# MASTERURKUNDE

Herr Franz Michael Göller  
geboren am 2. April 1969 in Rüdesheim am Rhein  
hat am 15. Februar 2011

die Master-Prüfung am  
Fachbereich Technik

Weiterbildungsstudiengang Geoinformatik

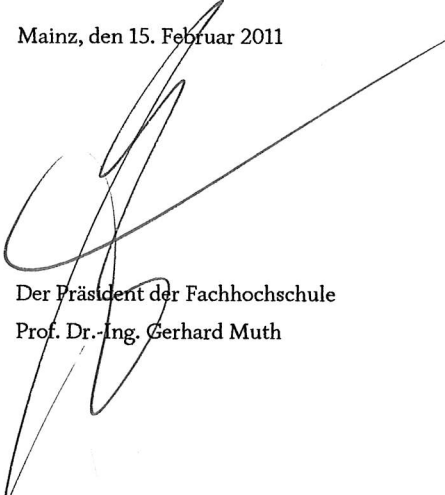
bestanden.

Aufgrund dieser Prüfung wird ihm der Grad

## Master of Engineering

verliehen.

Mainz, den 15. Februar 2011



Der Präsident der Fachhochschule  
Prof. Dr.-Ing. Gerhard Muth

# ZEUGNIS DER MASTERPRÜFUNG



## WEITERBILDUNGSSTUDIENGANG GEOINFORMATIK

**Herr Franz Michael Göller, geboren am 2. April 1969 in Rüdesheim am Rhein,  
hat die Master-Prüfung bestanden.**

Gesamtnote: befriedigend (2,8)

Thema der Master-Arbeit: Ermittlung von Überschwemmungsgebieten im Bereich Miehlen am Mühlbach, Taunus, nach EU-Hochwasserrisikomanagement-Richtlinie

Bewertung der Master-Arbeit: befriedigend (3,0)

Die Leistungen in den einzelnen Prüfungsgebieten sind mit folgenden Fachnoten beurteilt worden:

<b>Prüfungsfächer</b>		<b>Wahlpflichtfächer</b>	
Datenerfassung aus Abbildungen	befriedigend (3,0)	Grundlagen der BWL	befriedigend (3,0)
Georeferenzierung und Datenerfassung	befriedigend (2,7)	Personalmanagement	sehr gut (1,3)
Softwareentwicklung und Datenorganisation	ausreichend (3,7)	Verteilte Geoinformationssysteme	befriedigend (3,3)
Datenmodellierung und Analyse	befriedigend (2,7)		
Digitale Bildverarbeitung	befriedigend (3,0)		
Interaktive Visualisierung und Internet	befriedigend (2,7)		
GIS-Projekte	befriedigend (3,0)		

Mainz, den 15. Februar 2011

Der Präsident der Fachhochschule  
Prof. Dr.-Ing. Gerhard Muth

Der Vorsitzende des Prüfungsausschusses  
Prof. Dr. Hartmut Müller

Die Prüfung wurde nach der Ordnung für die Master-Prüfung im Weiterbildungsstudiengang Geoinformatik des Fachbereichs I: Architektur, Bauingenieurwesen und Geoinformatik der Fachhochschule Mainz vom 1. Oktober 2001 (Staatsanzeiger für Rheinland-Pfalz, Seite 2080) in der Fassung vom 14. Juni 2006 (Staatsanzeiger für Rheinland-Pfalz, Seite 948) abgelegt. Mit dem Abschluss wird die Promotionseignung und die Eignung zum Zugang zum höheren Dienst im öffentlichen Dienst erreicht.

# DIPLOMA SUPPLEMENT



**Family Name:** Göller

**Given Name:** Franz Michael

**Date and Place of Birth:** 02/04/1969, Rüdesheim am Rhein

**Qualification / Title conferred:** Master of Engineering (M.Eng.)  
awarded 15/02/2011

**Main Field of Studies:** Geoinformatics

**Awarding Institution:** Fachhochschule Mainz - University of Applied Sciences

**Language of Instruction / Examination:** German

**Level of Qualification:** Second university degree

**Official Length of Programme:** Two years (60 ECTS credits)

**Access Requirements:** Completed first university degree  
plus in general one year of postgraduate professional experience

**Mode of Study:** Part-time programme

**Programme Requirements:** Simultaneous part-time or full-time employment in a private company or public sector agency during the studies strongly recommended.  
  
28 ECTS credits in mandatory studies, 12 ECTS credits in elective studies, 20 ECTS credits in master thesis.

**Programme Details:** Mr. Göller earned credits at the Fachhochschule Mainz - University of Applied Sciences during 4 semesters.

All courses were taught in German.



**INFORMATION ON THE GERMAN HIGHER EDUCATION SYSTEM<sup>1</sup>**

**1. Types of Institutions and Institutional Status**

Higher education (HE) studies in Germany are offered at three types of Higher Education Institutions (HEI).<sup>2</sup>

- *Universitäten* (Universities), including various specialized institutions, offer the whole range of academic disciplines. In the German tradition, universities focus in particular on basic research so that advanced stages of study have mainly theoretical orientation and research-oriented components.
- *Fachhochschulen* (Universities of Applied Sciences) concentrate their study programmes in engineering and other technical disciplines, business-related studies, social work, and design areas. The common mission of applied research and development implies a distinct application-oriented focus and professional character of studies, which include integrated and supervised work assignments in industry, enterprises or other relevant institutions.
- *Kunst- und Musikhochschulen* (Colleges of Art/Music) offer studies for artistic careers in fine arts, performing arts and music; in such fields as directing, production, writing in theatre, film and other media; and in a variety of design areas, architecture, media and communication.

Higher Education institutions are either state or state-recognized institutions. In their operations, including the organization of studies and the designation and award of degrees, they are both subject to higher education legislation.

**2. Types of programs and degrees awarded**

Studies in all three types of institutions have traditionally been offered in integrated "long" (one-tier) programs leading to *Diplom-* or *Magister Artium* degrees or completed by a *Staatsprüfung* (State Examination).

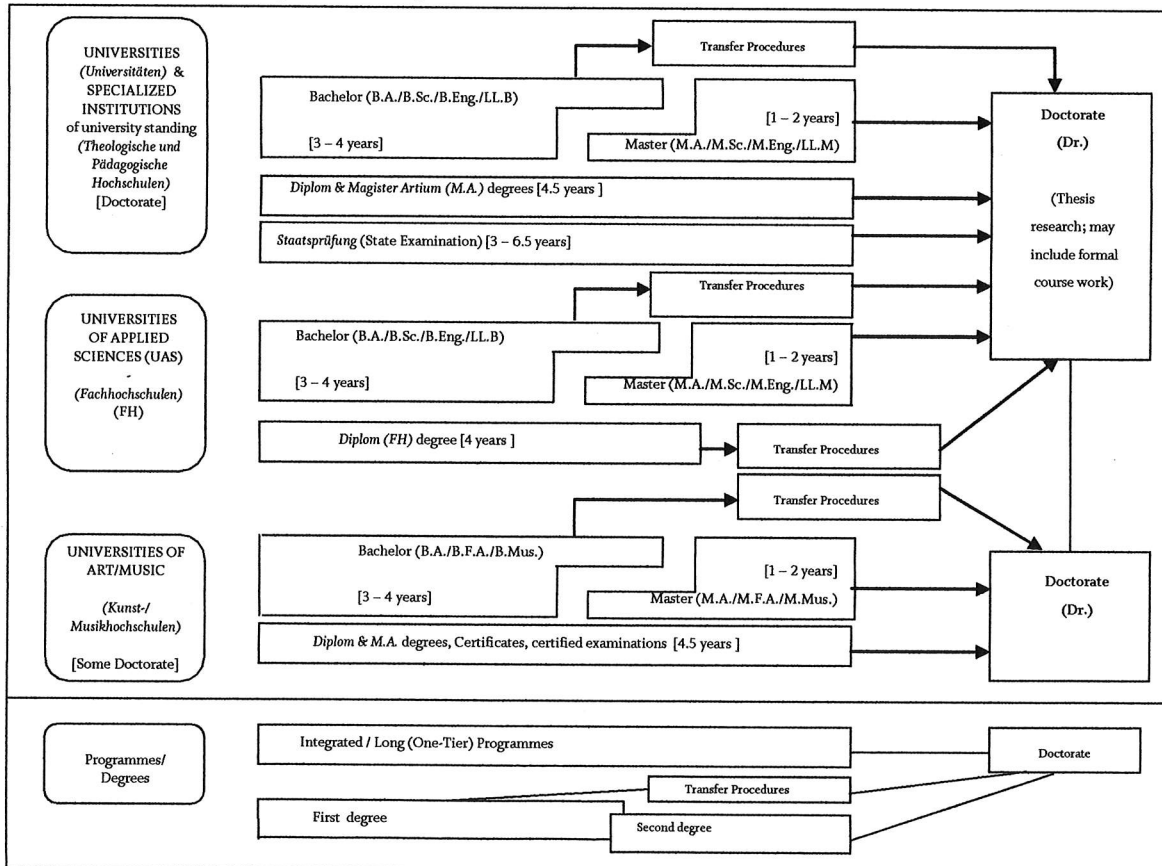
Within the framework of the Bologna-Process one-tier study programmes are successively being replaced by a two-tier study system. Since 1998, a scheme of first- and second-level degree programmes (Bachelor and Master) was introduced to be offered parallel to or instead of integrated "long" programmes. These programmes are designed to provide enlarged variety and flexibility to students in planning and pursuing educational objectives, they also enhance international compatibility of studies.

For details cf. Sec. 4.1, 4.2, and 4.3 respectively. Table 1 provides a synoptic summary.

**3. Approval/Accreditation of Programs and Degrees**

To ensure quality and comparability of qualifications, the organization of studies and general degree requirements have to conform to principles and regulations established by the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany (KMK).<sup>3</sup> In 1999, a system of accreditation for programmes of study has become operational under the control of an Accreditation Council at national level. All new programmes have to be accredited under this scheme; after a successful accreditation they receive the quality-label of the Accreditation Council.<sup>4</sup>

Table 1: Institutions, Programs and Degrees in German Higher Education



#### 4. Organization and Structure of Studies

The following programmes apply to all three types of institutions. Bachelor's and Master's study courses may be studied consecutively, at various higher education institutions, at different types of higher education institutions and with phases of professional work between the first and the second qualification. The organization of the study programmes makes use of modular components and of the European Credit Transfer and Accumulation System (ECTS) with 30 credits corresponding to one semester.

##### 4.1 Bachelor

Bachelor degree study programmes lay the academic foundations, provide methodological skills and lead to qualifications related to the professional field. The Bachelor degree is awarded after 3 to 4 years.

The Bachelor degree programme includes a thesis requirement. Study courses leading to the Bachelor degree must be accredited according to the Law establishing a Foundation for the Accreditation of Study Programmes in Germany.<sup>5</sup>

First degree programmes (Bachelor) lead to Bachelor of Arts (B.A.), Bachelor of Science (B.Sc.), Bachelor of Engineering (B.Eng.), Bachelor of Laws (LL.B.), Bachelor of Fine Arts (B.F.A.), Bachelor of Music (B.Mus.) or Bachelor of Education (B.Ed.).

##### 4.2 Master

Master is the second degree after another 1 or 2 years. Master study programmes must be differentiated by the profile types "more practice-oriented" and "more research-oriented". Higher Education Institutions define the profile of each Master study programme.

The Master degree study programme includes a thesis requirement. Study programmes leading to the Master degree must be accredited according to the Law establishing a Foundation for the Accreditation of Study Programmes in Germany.<sup>5</sup>

Second degree programmes (Master) lead to Master of Arts (M.A.), Master of Science (M.Sc.), Master of Engineering (M.Eng.), Master of Laws (LL.M.), Master of Fine Arts (M.F.A.), Master of Music (M.Mus.) or Master of Education (M.Ed.). Master study programmes, which are designed for continuing education or which do not build on the preceding Bachelor study programmes in terms of their content, may carry other designations (e.g. MBA).

##### 4.3 Integrated "Long" Programmes (One-Tier):

*Diplom degrees, Magister Artium, Staatsprüfung*

An integrated study programme is either mono-disciplinary (*Diplom* degrees, most programmes completed by a *Staatsprüfung*) or comprises a combination of either two major or one major and two minor fields (*Magister Artium*). The first stage (1.5 to 2 years) focuses on broad orientations and foundations of the field(s) of study. An Intermediate Examination (*Diplom-Vorprüfung* for *Diplom* degrees; *Zwischenprüfung* or credit requirements for the *Magister Artium*) is prerequisite to enter the second stage of advanced studies and specializations. Degree requirements always include submission of a thesis (up to 6 months duration) and comprehensive final written and oral examinations. Similar regulations apply to studies leading to a *Staatsprüfung*. The level of qualification is equivalent to the Master level.

- Integrated Studies at *Universitäten (U)* last 4 to 5 years (*Diplom* degree, *Magister Artium*) or 3 to 6.5 years (*Staatsprüfung*). The *Diplom* degree is awarded in engineering disciplines, the natural sciences as well as economic and business. In the humanities, the corresponding degree is usually the *Magister Artium (M.A.)*. In the social sciences, the practice varies as a matter of institutional traditions. Studies preparing for legal, medical, pharmaceutical and teaching professions are completed by a *Staatsprüfung*.

The three qualifications (*Diplom*, *Magister Artium* and *Staatsprüfung*) are academically equivalent. They qualify to apply for admission to doctoral studies. Further prerequisites for admission may be defined by the Higher Education Institution, cf. Sec. 5.

- Integrated studies at *Fachhochschulen (FH)* / Universities of Applied Sciences (UAS) last 4 years and lead to a *Diplom (FH)* degree. While the *FH/UAS* are non-doctorate granting institutions, qualified graduates may apply for admission to doctoral studies at doctorate-granting institutions, cf. Sec. 5.

- Integrated Studies at *Kunst- and Musikhochschulen* (Colleges of Art/Music, etc.) are more diverse in their organization, depending on the field and individual objectives. In addition to *Diplom/Magister* degrees, the integrated study programme awards include Certificates and certified examinations for specialized areas and professional purposes.

#### 5. Doctorate

Universities as well as specialized institutions of university standing and some Universities of Art/Music are doctorate-granting institutions. Formal prerequisite for admission to doctoral work is a qualified Master (UAS and U), a *Magister* degree, *Diplom*, a *Staatsprüfung*, or a foreign equivalent. Particularly qualified holders of a Bachelor or a *Diplom (FH)* degree may also be admitted to doctoral studies without acquisition of a further degree by means of a procedure to determine their aptitude. The universities respectively the doctorate-granting institutions regulate entry to a doctorate as well as the structure of the procedure to determine aptitude. Admission further requires the acceptance of the Dissertation research project by a professor as a supervisor.

#### 6. Grading Scheme

The grading scheme in Germany usually comprises five levels (with numerical equivalents; intermediate grades may be given): "Sehr Gut" (1) = Very Good; "Gut" (2) = Good; "Befriedigend" (3) = Satisfactory; "Ausreichend" (4) = Sufficient; "Nicht ausreichend" (5) = Non-Sufficient/Fail. The minimum passing grade is "Ausreichend" (4). Verbal designations of grades may vary in some cases and for doctoral degrees.

In addition institutions may already use the ECTS grading scheme, which operates with the levels A (best 10 %), B (next 25 %), C (next 30 %), D (next 25 %), and E (next 10 %).

#### 7. Access to Higher Education

The General Higher Education Entrance Qualification (*Allgemeine Hochschulreife, Abitur*) after 12 to 13 years of schooling allows for admission to all higher education studies. Specialized variants (*Fachgebundene Hochschulreife*) allow for admission to particular disciplines. Access to *Fachhochschulen(UAS)* is also possible with the *Fachhochschulreife*, which can usually be acquired after 12 years of schooling. Admission to Universities of Art/Music may be based on other or require additional evidence demonstrating individual aptitude.

Higher Education Institutions may in certain cases apply additional admission procedures.

#### 8. National Sources of Information

- Kultusministerkonferenz (KMK) [Standing Conference of Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany]; Lennéstrasse 6, D-53113 Bonn; Fax: +49/[0]228/501-229; Phone: +49/[0]228/501-0
- Central Office of Foreign Education (ZaB) as German NARIC; [www.kmk.org](http://www.kmk.org); E-Mail: [zab@kmk.org](mailto:zab@kmk.org)
- "Documentation and Educational Information Service" as German EURYDICE-Unit, providing the national dossier on the education system ([www.kmk.org/doku/bildungswesen.htm](http://www.kmk.org/doku/bildungswesen.htm)); E-Mail: [eurydice@kmk.org](mailto:eurydice@kmk.org)
- Hochschulrektorenkonferenz (HRK) [German Rector's Conference]; Ahrstrasse 39, D-53175 Bonn; Fax: +49/[0]228/887-210; Phone: +49/[0]228/887-0; [www.hrk.de](http://www.hrk.de); E-Mail: [post@hrk.de](mailto:post@hrk.de)
- "Higher Education Compass" of the German Rector's Conference features comprehensive information on institutions, programmes of study, etc. ([www.higher-education-compass.de](http://www.higher-education-compass.de))

<sup>1</sup> The information covers only aspects directly relevant to purposes of the Diploma Supplement. All information as of 1 December 2007.

<sup>2</sup> *Berufsakademien* are not considered as Higher education institutions, they only exist in some of the *Länder*. They offer educational programmes in close cooperation with private companies. Students receive a formal degree and carry out an apprenticeship at the company. Some *Berufsakademien* offer Bachelor courses which are recognized as an academic degree if they are accredited by a German accreditation agency.

<sup>3</sup> Common structural guidelines of the *Länder* as set out in Article 9 Clause 2 of the Framework Act of Higher Education (HRG) for the accreditation of Bachelor's and Master's study courses (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 10.10.2003, as amended on 15.6.2007).

<sup>4</sup> Law establishing a Foundation "Foundation for the Accreditation of Study Programmes in Germany", entered into force a from 26.2.2005, GV. NRW.2005, nr. 5, p. 45 in connection with the Declaration of the *Länder* to the Foundation "Foundation for the Accreditation of Study Programmes in Germany" (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 16.12.2004)

<sup>5</sup> See note No. 4

<sup>6</sup> See note No. 4