HOCHSCHULE harz

Hochschule für angewandte Wissenschaften (FH)

University of Applied Sciences

Diploma Supplement

This Diploma Supplement model was developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international 'transparency' and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgements, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why.

1. HOLDER OF THE QUALIFICATION

1.1 Family Name / 1.2 First Name

Mustermann, Hans

1.3 Date, Place, Country of Birth

1974-06-23, Musterhausen

1.4 Student ID Number or Code

7334

2. QUALIFICATION

2.1 Name of Qualification (full, abbreviated; in original language)

Bachelor of Science (B.Sc.)

Title Conferred (full, abbreviated; in original language)

Does not apply

2.2 Main Field(s) of Study

Media Informatics
Field of study Media Production with the specializations:
 - software engineering
 - Multimedia

2.3 Institution Awarding the Qualification (in original language)

Hochschule Harz - Hochschule für angewandte Wissenschaften (FH)

Status (Type / Control)

University of Applied Sciences / State University

2.4 Institution Administering Studies (in original language)

Hochschule Harz - Hochschule für angewandte Wissenschaften (FH)

Status (Type / Control)

University of Applied Sciences / State University

2.5 Language(s) of Instruction/Examination

German and English

3. LEVEL OF THE QUALIFICATION

3.1 Level

First degree

3.2 Official Length of Programme

3.5 years with 7 semesters

3.3 Access Requirements

Higher Education Entrance Qualification (HEEQ), General, Specialized or HEEQ for UAS, cf. Sec. 8.7.

4. CONTENTS AND RESULTS GAINED

4.1 Mode of Study

Full-time, on-campus programme

4.2 Programme Requirements/Qualification Profile of the Graduate

Media Informatics is an interdisciplinary programme. Upon completion of this course, the graduate will have acquired skills in the core areas of information technology, computer science and design. Media informatics scientists are able to deal professionally with all of the tasks required of them in the media industry environment. Their skills include dealing with programming tasks, network configuration, the application of aesthetic criteria in the design process, the contribution of individual creativity, plus team, time, cost and project management.

In the "Media Production" specialisation, students acquire comprehensive knowledge of the relevant and current methods, techniques and systems required for the development and design of multimedia applications. Building on this, they are able to develop multimedia protocols and implementation concepts.

The Media Informatics programme is based on four key pillars:
1. Basic knowledge:
Fundamental Computer Science and Design knowledge and a critical understanding of the methods and theories used in the field of digital media manufacturing are conveyed. Students learn how to utilize formal modelling methods for solving and evaluating outstanding problems. They use qualitative and quantitative scientific methods and creative approaches to the implementation of design and solution strategies that they have developed themselves.

2. Project-oriented study right from the start of the course:
Assessed assignments are produced to develop team solutions to problems that have been set. The second part of the course includes practical projects with tasks from the two areas of Computer Science and Design. Group projects are undertaken in small groups. The topics have a strong practical bias and frequently result in cooperation with external clients. The individual project is planned and undertaken independently by one student or a limited number of students, and may involve cooperation with an external client. In this case the lecturers are available as advisors and to ensure the quality of the projects.

3. Professional orientation (amounting to a total of 30 ECTS credit points):
In the professional "Computer Science of Media" and "Media Design" orientations, a broad selection of current topics is consolidated in project-oriented group work. Depending on the discipline chosen, the professional orientation ratio will be 2:1 in favour of one or the other of the disciplines. Two multi-semester projects must also be produced.

4. Application-centric focus:
An independent practical semester is integrated into the course schedule so that students can obtain practical experience in companies and institutions. With the Bachelor's thesis at the end of their course of study, students will acquire a scientific qualification by using their own approaches to problem solving.
Alongside the purely technical skills, graduates of this course also develop general skills (e.g.

networked thinking in the field of project management, basic understanding of the social impact of technology) and social skills (e.g. teamwork, communication skills, leadership skills, strategic business competence, customer advice for media applications).

Furthermore, during their studies, skills and competences are imparted in the following areas:
- detailed design and production of multimedia presentations (sound, animation, video,
** 3D modelling)**
- development of static and dynamic websites
- in-depth knowledge of standard applications for designers and computer scientists
** (Maya, Photoshop, Eclipse, Flash, Illustrator, Avid, ProTool etc.)**
- specialist knowledge of the principles and algorithms of hardware/software-based
** computer graphics**
- specialist knowledge of media production (typography, 2D graphics, digital photography etc.)
- specialist knowledge of the colour sciences and the use of colour in visual media
- design and implementation of software and plug-ins using common languages
** and associated libraries**
- human-computer interaction

Software Engineering
Within the module "software engineering" the graduate learned how to use common methods of software engineering. He/She is capable to apply advanced paradigms and concepts to design software. Through practical exercises the graduate knows how to implement software based on previously drafted concepts. He/She learned to work with modern CASE-tools and programming languages.

Multimedia
Within the module "multimedia" the graduate acquired knowledge about relevant and current methods, techniques, and systems that are required to develop multimedia applications. He/She learned how multimedia protocols are designed. Through practical exercises the graduate is able to conceptualise and implement multimedia components and systems.

4.3 Programme Details

Courses Taken	Grade	Performance Appraisal	ECTS-Credits	ECTS-Grade
Introduction to Computer Science	4	sufficient	5	*
Introduction to Programming	3,6	sufficient	5	*
Media Informatics	1,5	very good	7	*
Media Design 1	3	satisfactory	5	*
Audiovisual Design 1	1,8	good	5	*
Mathematics 1	3,6	sufficient	5	*
Mathematics 2	3,2	satisfactory	5	*
Object-oriented Programming Methodology	2,2	good	8	*
Media Design 2	1,3	very good	5	*
Audiovisual Design 2	2,9	satisfactory	5	*
Preparatory Course English	1,3	very good		*
English for Media Purposes 1	3	satisfactory	5	*
English for Media Purposes 2	1,9	good	5	*
Application Programming	1,3	very good	5	*
	2,9	satisfactory	5	*
Database Systems	2,6	satisfactory	5	*
Human-Computer Interfaces	2,7	satisfactory	5	*
Multimedia Project Management	3,5	satisfactory	5	*

Theoretical Computer Science	1,6	good	5	*
Software Engineering	1,4	very good	5	*
Project Preparation	3,1	satisfactory	5	*
Web Programming	3,4	satisfactory	5	*
Post Production	2	good	5	*
Media Informatics and Society	3,5	satisfactory	5	*
Group Project	3,3	satisfactory		*
Individual Project	2,1	good		*
3D Animation	2,8	satisfactory	5	*
Professional Field Orientation: Computer Science of Media	2,1	good	10	*
Professional Field Orientation: Media Design	2,6	satisfactory	20	*
Work Placement	2,4	good	15	*
Colloquium	2,8	satisfactory	3	*
Bachelor Thesis	3,3	satisfactory	12	*

Theme:	Hier steht dann der Titel der Bachelor- bzw. Masterarbeit in englisch, soweit vorhanden, sonst in deutsch

* Not calculated due to an inadequate number of cases.

4.4 Grading Scheme

HS Harz Grade	Performance appraisal
1,0 - 1,3	Very good
1,7 - 2,0 - 2,3	Good
2,7 - 3,0 - 3,3	Satisfactory
3,7 - 4,0	Sufficient
5,0	Non-sufficient/Fail

The calculation of the ECTS-grade results from an examination cohort of the three preceding semesters. In order to be calculated, the ECTS-grade requires at least 20 examination events in the examination cohort.

See below section 8.6

4.5 Overall Classification (in original language)

2,2   (good)   **ECTS-Grade: C**

5. FUNCTION OF THE QUALIFICATION

5.1 Access to Further Study

EQF Level 6: Qualification for admission to master's programs.

5.2 Professional Status

Does not apply

6. ADDITIONAL INFORMATION

6.1 Additional Information

The graduate has proved extracurricular achievements.

6.2 Further Information Sources

On the institution: www.hs-harz.de; www.medieninformatik.de
For national information sources cf. Sect. 8.8

7. CERTIFICATION

This Diploma Supplement refers to the following original documents:

Document of the granting of the degree dated 2014-02-17
Urkunde über die Verleihung des Grades vom 17.02.2014

Examination Certificate dated 2014-02-17
Zeugnis vom 17.02.2014

Transcript of Records dated 2014-02-17
Transcript of Records vom 17.02.2014

Certification Date: 2014-02-17

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Chairman Examination Committee

University Seal

8. NATIONAL HIGHER EDUCATION SYSTEM

The information on the national higher education system on the following pages provides a context for the qualification and the type of higher education that awarded it.

8. INFORMATION ON THE GERMAN HIGHER EDUCATION SYSTEM[1]

8.1 Types of Institutions and Institutional Status

Higher education (HE) studies in Germany are offered at three types of Higher Education Institutions (HEI).[2]

- *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* (Universities 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.

8.2 Types of Programmes and Degrees Awarded

Studies in all three types of institutions have traditionally been offered in integrated "long" (one-tier) programmes 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.

The German Qualification Framework for Higher Education Degree[3] describes the degrees of the German Higher Education System. It contains the classification of the qualification levels as well as the resulting qualifications and competencies of the graduates.

For details cf. Sec. 8.4.1, 8.4.2, and 8.4.3 respectively. Table 1 provides a synoptic summary.

8.3 Approval/Accreditation of Programmes 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).[4] 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.[5]

Table 1: Institutions, Programmes and Degrees in German Higher Education
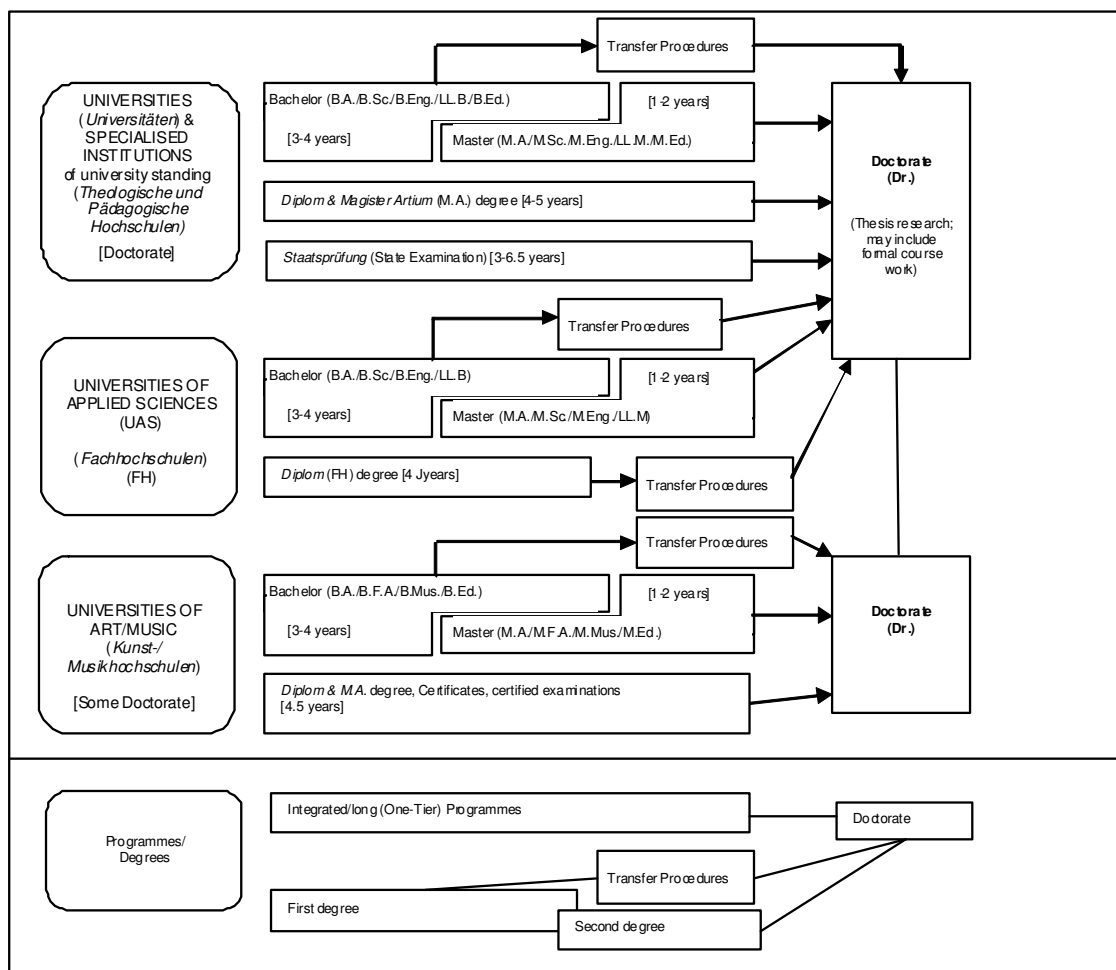
8.4 Organization and Structure of Studies

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.

8.4.1 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.[6]
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.).

8.4.2 Master

Master is the second degree after another 1 to 2 years. Master study programmes may be differentiated by the profile types "practice-oriented" and "research-oriented". Higher Education Institutions define the profile.
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.[7]
Second degree programmes (Master) lead to Master of Arts (M.A.), Master of Science (M.Sc.), Master of Engineering (M.Eng.), Master of Laws (L.L.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 may carry other designations (e.g. MBA).

8.4.3 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 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 economics 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 the legal, medical and pharmaceutical professions are completed by a Staatsprüfung. This applies also to studies preparing for teaching professions of some Länder.
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. 8.5.

- 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. 8.5.

- Studies at Kunst- and Musikhochschulen (Universities 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.

8.5 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, a 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.

8.6 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 partly already use an ECTS grading scheme.

8.7 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 educational studies. Specialized variants (Fachgebundene Hochschulreife) allow for admission to particular disciplines. Access to Fachhochschulen (UAS) is also possible with a 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.

8.8 National Sources of Information

- Kultusministerkonferenz (KMK) [Standing Conference of the 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 for Foreign Education (ZaB) as German NARIC; www.kmk.org; E-Mail: zab@kmk.org
- "Documentation and Educational Information Service" as German EURYDICE-Unit, providing the national dossier on the education system (http://www.kmk.org/dokumentation/zusammenarbeit-auf-europaeischer-ebene-im-eurydice-informationsnetz.html; E-Mail: eurydice@kmk.org)
- Hochschulrektorenkonferenz (HRK) [German Rectors' Conference]; Ahrstrasse 39, D-53175 Bonn; Fax: +49[0]228/887-110; Phone: +49[0]228/887-0; www.hrk.de; E-Mail: post@hrk.de
- "Higher Education Compass" of the German Rectors' Conference features comprehensive information on institutions, programmes of study, etc. (www.higher-education-compass.de)

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[1] The information covers only aspects directly relevant to purposes of the Diploma Supplement. All information as of 1 July 2010.

[2] 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.

[3] German Qualification Framework for Higher Education Degrees (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany of 21.04.2005).

[4] Common structural guidelines of the Länder 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 04.02.2010).

[5] "Law establishing a Foundation 'Foundation for the Accreditation of Study Programmes in Germany'", entered into force as from 26.2.2005, GV. NRW. 2005, nr. 5, p. 45 in connection with the Declaration of the Länder to the Foundation "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.

[6] See note No. 5.

[7] See note No. 5.