

ANNEX 4.1

Implementation Rules for the “Epidemiology and Clinical Research” PhD Programme

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1) List of study courses to be recognised

In accordance with the Regulations Governing Doctoral Proceedings at the Medical Faculty of the University of Duisburg-Essen for the attainment of a Doctorate of Philosophy (PhD) pursuant to **Sect. 5 Para. 4.**

Completed courses of study in the natural sciences or "*Life Sciences*" shall in principle be eligible for recognition provided that the requirements of Sect. 5 Paragraphs 1, 2, 5 and 8 are met. These shall include in particular the following courses of study:

Human medicine, dentistry, veterinary medicine, epidemiology, public health, biology, chemistry, physics, biochemistry, pharmaceutical studies, psychology, mathematics, statistics, information technology, nutritional science, sociology and sports science.

Other undergraduate courses may be recognised by the Doctoral Committee on a case-by-case basis.

2) Admission to the PhD Programme (augmentation of Sect. 6 of the Regulations Governing PhD Proceedings at the Medical Faculty, UDE)

Deadlines for applications for places on the PhD Programme shall be advertised publicly once per year. The current application deadlines may be found at the Center of Clinical Epidemiology (ZKE) website. Applications may be submitted either electronically or by post. The date shown by the incoming mail stamp shall determine whether a postal application has been received in a timely manner. Postal applications should be sent to: Center of Clinical Epidemiology (ZKE), c/o the Secretaries' Office, Department of Medical Information Technology, Biometrics & Epidemiology (IMIBE) Hufelandstraße 55, D-45147 Essen, Germany. Email applications should be sent to: zke-sekr@uk-essen.de with the following in the subject line: PhD Programme Application / Year / Name. Late applications may be considered in exceptional cases. In special cases, admission applications may also be made at other dates. The application documents below must be submitted in English or German. With email applications, all documents must be submitted in PDF format:

1. A covering letter detailing aptitude, motivation, areas of academic and scientific interest and future career plans.
2. A structured curriculum vitae (resume) with the applicant's name, address (including email), date of birth, nationality, hobbies and current photograph (optional) plus a list of research activities to date (subject matter, durations and results)
3. Documentary evidence of a higher education entrance qualification and certificates of any previous degrees in officially certified form (not originals but officially certified copies and officially certified translations into German). For physicians and dentists, this shall be the Medical State Examination qualifying them to practise as physicians, or the Dentistry Examination qualifying them to practise as dentists.
4. Indication of the intended area of doctoral studies including, if you wish, a rough outline of your plan for the doctoral proceedings (subject matter and, where applicable, working group).
4. Certificate of proficiency in the English language (non-native-English-speaking applicants only).
5. Two letters of recommendation with respect to academic achievements to date and aptitude for academic work.

The successful candidate must demonstrate and give reasons for his/her motivation and suitability for the PhD Programme at a selection interview. The applicant shall not necessarily have to come to Essen in person for interview, as this may also be conducted remotely (e.g. by telephone or video conference).

3) Aim of the Epidemiology and Clinical Research PhD Programme

The programme is designed to enable doctoral students to plan, conduct, evaluate and publish epidemiological and clinical studies independently at the end of the dissertation, with due regard to Good Epidemiological Practice (GEP) and Good Clinical Practice (GCP). With their dissertations, doctoral students shall demonstrate an ability, through independent academic/scientific work, to achieve relevant results which help advance clinical medicine and epidemiology.

4) Structure and content of the PhD Programme

Doctoral proceedings shall be scheduled to cover a period of three years and include both an integrated personal research project and an accompanying curriculum scheduled to last two years and comprise a total of no less than 300 teaching units (TUs) of 45 minutes each. 263 of these TUs shall be obtained by way of compulsory and elective modules (see below); doctoral students may use the remaining TUs to deepen interests and specialisms by means of a free choice of modules or events.

The third year shall, as a rule, be used to finalise the dissertation. Lectures and seminars shall be held as block courses in modular form, i.e. the various knowledge, skills and capabilities needed for the dissertation shall be acquired at lectures and seminars which complement and build on each other.

There are currently no plans for reckoning lectures and seminars under the European Credit Transfer System (ECTS). However, TUs may be translated into ECTS credits in individual cases. Such an individual case would apply, for example, where there were an impending risk of a doctoral student being disadvantaged as regards recognition of achievements attained during the doctoral programme.

The core modules (see Table 1) in Epidemiology, Biometrics and Statistical Analysis Programmes are mandatory for all doctoral students and provide the scientific foundation for the students' epidemiological and clinical research activities. These modules shall be complemented by annual sub-modules offered by international visiting lecturers from Europe or the United States. Lectures by visiting lecturers shall be an integral part of the PhD Programme curriculum as a means of further reinforcing the UDE "Internationalisation@home" initiative and applying in the form of structured doctorates.

Doctoral students able to demonstrate extensive knowledge of the compulsory series modules from their initial degrees may attend other modules following approval by the PhD Committee (see Sect.7 "PhD Committee" below). The PhD Committee shall specify a higher contingent of compulsory hours for doctoral students whose degrees have provided them with less knowledge in the above subject areas. The choice of elective and optional modules must be discussed with the student's supervisor (see Sect. 6a Para. 4 of the Regulations Governing PhD Proceedings).

Table 1. Timetable and course contents

Module^a	Status	Percentage of the	CP^c
Core module: Epidemiology	Compulsory	100**	10
Core module: Biometrics & Statistics	Compulsory	40	4
Core module: Statistical Analysis Programmes	Compulsory	40	4
Prevention & Occupational Health	Compulsory	20	2
International visiting lecturer in epidemiology and prevention (I@H) ^d	Compulsory	35	3.5
Compulsory modules for all doctoral students in the Medical Faculty	Compulsory	4	Conversion not required
Scientific/academic capability ^e	Compulsory/elective	26 ^f	Conversion on a module-by-module basis
Elective modules	Elective/optional	35 ^g	Conversion not required
Total		300	30

^aThe contents of the core modules can be found in the PhD Programme lecture catalogue at <http://www.uk-essen.de/zke/lehre/>.

^bTUs = teaching units of 45 minutes.

^bAs per Sect. 6a Para. 3 of the Regulations Governing PhD Proceedings, TUs shall be converted to credit points at the rate of: 10 TUs = 1 CP = 7.5 hrs.

^dVisiting lecturers shall be funded by outside means. The University of Duisburg-Essen (UDE) has various options at its disposal for this purpose. Should it prove impossible to engage the services of an international lecturer in any given year, a senior German lecturer shall be chosen and invited for this module.

^eCertain achievements in this category are rewarded with TU contingents (e.g. attendance at conferences)

^fOf the 26 TUs required, 6 TUs may be chosen at will in this category.

^gOf the 35 TUs required, no less than 31 TUs may be chosen at will in this category.

5) Catalogue of compulsory and elective modules¹

The following are compulsory for all doctoral students in the Medical Faculty:

- Attendance at the Medical Faculty's "Studying for a Medical PhD" launch event (**TU credits: 1 TU**),
- Attendance at an approved training event on "Good Scientific Practice" (**TU credits: 2 TUs**)
- Attendance at an approved training event on "Making Academic/Scientific Quotations" (**TU credits: 1 TU**).

5a) Academic Skills & Capabilities (compulsory, total of 26 TUs)

Doctoral students shall take modules to acquire General Key Skills (GKS) to ensure that their dissertations meet general criteria for academic work, apart from the epidemiological or clinical questions addressed. Overall, doctoral students shall be expected to attain 26 TUs in "Academic Skills & Capabilities" by means of elective offerings. The 26 TUs shall include, for example, seminars in scientific/academic writing and presentation, and in writing grant proposals. The following GKS modules (see below) must be taken and shall be credited with a total of 20 TUs. The doctoral student shall choose no less than 2 other modules in this category, each contributing a maximum of 3 TU credits.

- **Chairing Skills, Preparation & Follow-Up of Scientific/Academic Meetings (compulsory, 3 TU credits)**

Communicating with colleagues at meetings is a key part of all work settings. Being prepared for this demands a set of skills which are learned during the course of this module. After chairing a scientific/academic meeting, the doctoral students are given individual feedback to help identify their strengths and weaknesses with a view to improving their "meetings" skills and filling any capability gaps.

- **Placement / practical work activity (compulsory, 11 TU credits)**

Following agreement with their supervisor, doctoral students shall undertake a one-week placement in research or treatment institutions. Institutions chosen must have an obvious connection to the dissertation topic. At the end of the placement, a placement report shall be written by the doctoral student.

¹ The module catalogue presents the preliminary selection of modules in the areas of "Academic Skills & Capabilities" and "Elective Modules". The right is reserved to make amendments which prove necessary during the course of the programme. The full current module catalogue can be downloaded at <http://www.uk-essen.de/zke/lehre/>.

- **Scientific/Academic Talk (compulsory, 3 TU credits)**

Doctoral students shall present their latest research findings at least once in the intended three years in the form of a talk held at a scientific symposium / conference. If no abstract is accepted as a talk, a poster presentation may be credited. The creation of a poster, however, may only be assessed as 1 TU. Doctoral students are expected to arrange their own funding for the trip unaided.

- **Annual PhD Conference (compulsory, 3 TU credits)**

PhD conferences are held each year, at which students report current progress on their research work. Attendance at the conferences is compulsory. The colloquium primarily serves to aid interaction and networking between doctoral candidates and key players in the fields of epidemiology and clinical medicine. Responsible for the detailed content and

main topic of the conference shall be the PhD conference team (see below) which is put together in Year 1 of each PhD Programme. The conferences are held in the middle of the year to allow students from at least two years to attend. The intention is to prepare the minds of the new doctoral students for the three years ahead.

- **Communicating in Academia (5 TUs)**

Condensing academic and scientific matters into brief, comprehensible “bite-sized pieces” is an essential feature of university life. The intention is that, by maintaining a wiki site on epidemiology and clinical research, students will learn how to prepare and edit specific issues for epidemiologists in such a way as to allow the wiki platform to be used as a reference work for modern epidemiology. A minimum of 2 wiki entries – one based on the subject of a lecture and one based on a research project undertaken by the student him or herself – shall count as evidence of achievement.

5b) Elective (total: 30 TUs)

- **Conducting of exercises and seminars (compulsory, 2 TU credits)**

The idea is for doctoral students to participate actively in teaching activities already during their three years of research work. This is in particular intended to help provide a taster for those interested in a career in academia. Doctoral students are to be involved in a maximum of 30 hours of teaching.

- **Epi and Clinical Research Club (compulsory, 2 TU credits)**

Doctoral students in the PhD Programme shall discuss scientific literature and scientific articles at regular intervals using specific issues and case studies. Own works may also be discussed at the club. The intention is for doctoral students to read literature critically and build/reinforce their expertise as reviewers at an early stage in their scientific and academic careers.

- **Organisation of annual PhD conference (5 TU credits)**

Thinking “outside the box” is the order of the day for the conference committee.

A group of three to six doctoral students (alternating annually) shall have the task of organising the annual PhD conference. Depending on the budget and intention of the convention, the conference shall be held over several days at home or abroad. The PhD conference team shall deal with the timetable, design and funding of the convention. The focus shall be on interaction between the doctoral students in different years, presentation of own dissertations and works from the body of PhD students and networking with other institutions and organisations. New roles and responsibilities in the areas of sponsorship, chairing of meetings, secretarial duties, treasurer's activities (and travel and communications) must be negotiated, shared and made to happen within the team.

- **PhD Tour (biennial) (4 TU credits)**

At the forefront shall be networking with other institutions and organisations with a focus on epidemiology and clinical medicine. This context, too, is intended as a means of giving doctoral students an opportunity to present their work. Depending on budget, the conference may be held over several days at home or abroad. The aim is to raise other institutions' awareness of our work and so encourage scientific and academic collaboration. The tour shall be accompanied by two lecturers.

Organisation of the PhD Tour (7 TU credits)

A group of not less than four doctoral students (alternating annually) shall be tasked with organising the biennial PhD Tour. The PhD conference team shall deal with the timetable, design and funding of the convention. For these tasks, too, the doctoral students shall have to undertake new roles and responsibilities in the areas of communications, donations, travel, chairing of meetings, secretarial duties and the responsibilities of treasurer.

- **External or foreign period of study (up to 35 TU credits)**

Students may complete part of their studies at another German university or abroad and have the modules attended there credited to the accompanying curriculum in Essen. Credits for achievements attained externally shall be awarded following internal evaluation by the PhD Committee (see PhD Committee section).

- **Intercultural classroom (compulsory, max. 5 TU credits)**

At Essen, international students shall enrol on doctorate-level classes taught in English by top-level German and international staff. They shall also be able to enrol on an intensive “German as a foreign language” class focusing on both everyday German and German for epidemiologists and clinical researchers. Additionally, German culture courses shall also be offered in English, providing a socio-cultural context for studies in epidemiology and clinical research. The international classroom shall be offered where the PhD Programme includes three or more international students.

5c) Optional (total of 5 TUs)

This free-format module is for use as desired. All lectures at universities and universities of applied sciences may be claimed here. The selection should, however, be of obvious relevance to the PhD Programme. Other activities of a practical nature may also be considered here in consultation with supervisors. An example of this would be participation in a mentoring programme such as that offered by UDE or RUB.

6) PhD Committee

The PhD Committee shall oversee implementation of the provisions contained in this Annex. The PhD Committee shall consist of the following members:

1. The PhD Programme Director,
2. One additional professor or habilitated member of the UDE Medical Faculty,
3. One scientific or academic member of staff of the UDE Medical Faculty's Department of Medical Information Technology, Biometrics & Epidemiology,
4. One PhD Programme representative.

Members of the aforementioned PhD Committee shall be appointed by the PhD Programme Director.

The course website <http://www.uk-essen.de/zke/lehre/> contains details of the current holders of the above positions.

7) Eligibility of credit points

The eligibility of credit points shall be checked by the PhD Committee.

Annex 1: Supplement to the PhD Certificate

PhD Programme Epidemiology and Clinical Research
Logo

Secretary's Office
University of Duisburg-Essen
Center of Clinical Epidemiology (ZKE)
Hufelandstraße 55 | D-45147 Essen

Candidate

Dept.

University

Subject: Overview of credit points

This certificate awarded to you on xxx, and which accompanied the PhD degree awarded for your thesis "xx", indicated that you have met the educational requirements of the "Epidemiology and Clinical Research" PhD Programme.

Your curriculum included the following elements:

Discipline-specific activities

ECTS credits

Courses

Epidemiology
Biometrics
SAS
Prevention & Occupational Health
Module by a visiting professor

General courses

Soft Skills

Optional courses

Total

xx.x

I wish to offer you my congratulations on completing your PhD thesis and meeting the requirements for the PhD Certificate.

Yours sincerely,

Prof. Dr. Andreas Stang, MPH, MD
Director of the Epidemiology and Clinical Research PhD Programme

Annex 2: PhD Certificate

PhD Programme LOGO

University Logo

Certificate

The Center of Clinical Research of the University Duisburg-Essen declares that

Surname, First Name

Born on.: xxx in:xxx

has successfully met all the requirements of the Educational Programme of the PhD Programme in Epidemiology and Clinical
Research

Place:

Date:

The PhD Programme Director
Epidemiology and Clinical Research

Supervisors

Annex 3 Documentation of Achievements at the Qualifying Stage
 Under Section 6a of the Regulations Governing PhD Proceedings of the Medical Faculty of the
 University of Duisburg-Essen dated xxx (Proclamation Journal Yr. X, p. xxx / no. Xxx)

Credit points may be attained by (see Implementation Rules for the "Epidemiology and Clinical Research" PhD Programme)	Achievements at the Qualifying Stage	Signature of Module Director	CP
Core modules			
Epidemiology			
Biometrics & Statistics			
SAS			
Prevention & Occupational Health			
Visiting lecturer			
Medical Faculty compulsory modules			
Studying for a Medical PhD			
Good Scientific Practice			
Making Academic/Scientific Quotations			
General Key Skills			
Elective			
Elective modules			
Elective / optional			

Qualifying Stage achievements were attained as part of Epidemiology and Clinical Research PhD Programme.

(Name)
 PhD candidate

(Name)
 Doctoral supervisor

Essen, dated

.....
 Signature of the doctoral candidate

.....
 Signature of the doctoral supervisor