

**PROPOSTA DE MÀSTERS PRESENTATS A LA 3a
CONVOCATÒRIA ERASMUS-MUNDUS
MASTER OF SCIENCE IN BIostatISTICS**

Acord núm. 148/2005 pel qual es ratifica la proposta de Master os Science Biostatistics

- Document aprovat per la Comissió de Docència del Consell de Govern del dia 17/05/2005
- Document aprovat pel Consell de Govern del dia 27/05/2005

DOCUMENT CG 12/05 2005

Vicerektorat d'Ordenació Acadèmica
Comissionat de l'Espai Europeu d'Educació Superior
Maig 2005

Benvolgut vicerector,

Et faig a mans la proposta (Memòria preliminar) del **Master of Science in Biostatistics** en el qual hem estat convidats a participar i en el que estem actualment treballant per presentar una proposta en la convocatòria *Erasmus Mundus 2005*.

Et remeto la informació que ens demanes en el teu missatge del dia 21 d'abril de 2005, per tal que el Consell de Govern de la UPC consideri la seva aprovació i en cas afirmatiu em faciliti la documentació oficial exigida a l'esmentada convocatòria.

1. *Nom de la persona i de la unitat de la UPC responsables del Màster i posició en el consorci d'institucions europees: participant o coordinadora*

Guadalupe Gómez Melis

Professora Titular d'Universitat

Departament d'Estadística i Investigació Operativa

Coordinadora del Programa de Doctorat "Aplicacions Tècniques i Informàtiques de l'Estadística, la Investigació Operativa i l'Optimització

Presidenta de la Comissió de Postgrau d'Estadística a proposta de la FME i del Departament d'Estadística i Investigació Operativa

Posició en el consorci: participant

2. *Institucions participants del consorci del Màster*

Coordinador: Limburgs Universitair Centrum (LUC)

Participant 1: Department of Mathematics and Statistics, University of Lancaster (Lancaster, UK)

Participant 2: Medical Statistics Unit, London School of Hygiene and Tropical Medicine (LSHTM) (UK)

Participant 3: Department of Statistics and Operations Research, Universitat Politècnica de Catalunya (Barcelona, Spain)

Participant 4: Department of Statistics and Operations Research, Universidad de Santiago de Compostela (Spain)

3. *Dades generals del programa*

3.1 *Denominació del programa conjunt (a la documentació d'Erasmus Mundus):*
Master of Science in Biostatistics

3.2 *Any acadèmic d'implantació:* 2006/2007

3.3 *Durada del pla en crèdits europeus:* 1 any i 3 mesos (80 ECTS)

4. *Extracte de les característiques del programa (descripció breu):*

- 4.1 *Orientació, objectius i perfil professional del Màster*
L'objectiu és oferir una formació sòlida i internacional en bioestadística amb institucions que tenen una excel·lent trajectòria en educació, investigació i col·laboració científica en l'àrea de la bioestadística.
El perfil professional es troba en el camp biosanitari.
- 4.2 *Programa d'estudis i mobilitat acadèmica.*
El programa s'organitza entorn a 4 trimestres.
En el 1r trimestre l'estudiant fa 20 ECTS, entre el 2n i el 3r en fa 40 ECTS i el 4t trimestre o període dedicat a la pràctica professional, consta de 20 ECTS.
- 4.3 *Organització docent: unitats de la UPC que participen en el desenvolupament del programa.*
El Departament d'Estadística i Investigació Operativa i la Facultat de Matemàtiques i Estadística.
- 4.4 *Requisits bàsics d'accés i perfil de l'estudiant.*
L'estudiant, per a seguir el programa, ha de demostrar competències, a nivell de grau, en matemàtiques i estadística, a més d'un bon nivell d'anglès.
- 4.5 *Condicions per a l'obtenció del títol; acords respecte a la titulació (doble o conjunta) i denominació del títol que emetrà la UPC.*
L'estudiant obté el títol de la institució a on inicia el 1r trimestre. Aquesta institució reconeix els cursos fets a les altres institucions els qual es llistaran al suplement del Títol.
En aquesta primera versió de la memòria s'indica que els estudis s'iniciaran en una de les dues institucions de Gran Bretanya o Bèlgica. En el futur s'hi podrà incloure la UPC.

5. *Títol : Master of Science in Biostatistics*

6. *Previsió de recursos necessaris per a la posada en marxa del programa fins a la plena implantació. La implantació efectiva del programa quedarà condicionada a la disponibilitat d'aquests recursos.*
Estem treballant en aquest punt. La part docent corresponent a la UPC es faria dins dels cursos previstos en el Programa de Postgrau d'Estadística.

Ben cordialment,

Manuel Martí Recober
Director del Departament d'Estadística i Investigació Operativa

Barcelona, 6 de maig de 2005



Education and Culture

Erasmus Mundus

Reserved for the Commission

Number

Date of Postmark

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ERASMUS MUNDUS PROGRAMME

Application Form for Action 1: ERASMUS MUNDUS MASTERS COURSES

You are applying for:

- An Erasmus Mundus Masters Course without a preparatory year
- An Erasmus Mundus Masters Course including a preparatory year

CLOSING DATE FOR SUBMISSION:

**31 MAY 2005
(as per postmark)**

Important instructions and information regarding the application and selection procedure

- Before completing the form, please read the relevant sections in the *Erasmus Mundus Call for Proposals EAC/04/05* and the *Administrative and Financial Handbook for Erasmus Mundus Projects*. Further information can be found on the Erasmus Mundus website: http://europa.eu.int/comm/education/programmes/mundus/index_en.html.
- Please note that even if you apply for an Erasmus Mundus Masters Course including a preparatory year, your application – if successful - would be selected for five years. You are therefore required to answer all questions under Section 2 of the application form.
- Your proposal will be assessed on the basis of the elements included in this application only. You can include web site references in your application, but the assessment of your proposal will not be based on additional technical information found on a web site and not contained within the application.
- Applicants should use as application language the operational language of communication between the institutions involved in the Masters Course.
- The application must be typewritten or word-processed using a computer, character size 11 pt minimum.
- The original of the application must bear the original signature of the legal representative of the co-ordinating institution and the original stamp of this institution.
- The application must be accompanied by copies of letters from the appropriate authorities of each institution participating in the Masters Course, confirming their agreement with the application as submitted.
- Applications must be sent by post **and** e-mail by the closing date. The paper copy is authentic. Applications sent by e-mail only or sent by fax will not be accepted. Annexes which are not available electronically need not be sent by e-mail.
- The signed original of the application and 2 copies thereof must be sent in the same envelope **by 31 May 2005 (as per postmark)** to:

European Commission
Directorate-General for Education and Culture
Directorate B – Unit B/6
Bureau: B -- 7 06/32
B-1049 Brussels
E-Mail: EAC-Erasmus-Mundus@cec.eu.int
Fax: (+32) (2) 296.32.33

Because of the tight timing for the assessment of applications, you are requested to send your application **by rapid mail so that it reaches the Commission no later than 7 June 2005**.

- A paper copy **and** an electronic copy of the original application must be sent by 31 May 2005 to the appropriate National Structure in each of the countries which are participating in the Masters Course. The list of National Structures appears in the *Erasmus Mundus Call for Proposals EAC/04/05* and on the website indicated above.
- All applications will receive an acknowledgement slip.
- Applications will be judged against the eligibility, selection and award criteria set out in the *Erasmus Mundus Call for Proposals EAC/04/05*.
- Applicants will be notified about the outcome of the selection in writing in September 2005. A copy of the notification letter will be sent to the National Structures concerned.
- In accordance with standard Commission practice, the information provided in your application may be used for the purposes of evaluating the Erasmus Mundus programme. The relevant data protection regulations will be respected.
- Any questions relating to this proposal should be addressed to the address indicated above.

SECTION 1 - IDENTIFICATION

1. Title of the Masters Course

Please use a maximum of 12 words; start with an acronym or abbreviation, if applicable.

Master of Science in Biostatistics

If your title is not in English, French or German, please provide a translation into any of the three languages.

2. Summary description of the Masters Course (maximum 500 words)

Please identify clearly the following aspects of your Masters Course:

- Objectives of the Masters Course, qualifications obtained, duration, language(s) of instruction, size of student population, professor / student ratio;
- Summary of study programme;
- List of higher education institutions involved in the Masters consortium¹, including locations and mobility arrangements;
- Precise degree awarded (by which institutions and recognised in which countries);
- Admission criteria.

If your application is successful, this summary will be used as the official description of the Masters Course. It will be part of your grant agreement and published on the internet. You are therefore kindly requested to formulate it very carefully and to provide this summary in English, French or German.

Objectives.

¹ The consortium is the group of higher education institutions involved in the Masters Course.

3. Languages

| | |
|--|---|
| Language in which you would like the grant agreement to be issued and correspondence with the Commission to be conducted. | |
| To facilitate co-operation with your partners, you are advised to enter the language most commonly used for communication within the consortium. | |
| 1 st preference | 2 nd preference |
| <input type="checkbox"/> German <input checked="" type="checkbox"/> English <input type="checkbox"/> French | <input type="checkbox"/> German <input type="checkbox"/> English <input checked="" type="checkbox"/> French |

4. Financial support from the European Community

Please note that according to the new financial regulation applicable to the general budget of the European Communities, one project may not receive more than one grant from the budget of the European Communities. In other words, if you are to be selected to receive an Erasmus Mundus grant for a given Masters Course, you must not receive a grant from another Community programme for the same Masters Course and funding period.

Is this Masters Course, or any aspect thereof or any larger project to which it may belong, currently being supported under another European Community programme?

| |
|--|
| <input checked="" type="checkbox"/> No |
| <input type="checkbox"/> Yes. Please specify the programme(s), date(s), type(s) of activity and, if possible, agreement number(s): |

Is this Masters Course, or any aspect thereof or any larger project to which it may belong, currently the subject of any other application for support from the European Community?

| |
|--|
| <input checked="" type="checkbox"/> No |
| <input type="checkbox"/> Yes. Please specify the programme(s) and provide the amount(s) requested: |

5. Previous applications for Erasmus Mundus Masters Courses

Please provide the following information for statistical purposes.

Are you resubmitting an application which has not been selected under previous Erasmus Mundus calls for proposals?

| |
|--|
| <input checked="" type="checkbox"/> No |
| <input type="checkbox"/> Yes. It was submitted under the first call for proposals (deadline 31 May 2004). Its reference number was: A1&2-2004 - |
| <input type="checkbox"/> Yes. It was submitted under the second call for proposals (deadline 31 October 2004). Its reference number was: A1-2005 - |
| If yes, has the composition of the consortium changed? <input type="checkbox"/> Yes <input type="checkbox"/> No. Possible comments: |

6. Co-ordinating institution of the Masters consortium

The co-ordinating institution is also the applicant institution. To fill in this part, please use country codes and region codes indicated in Annex 1.

6.1 Legal Representative

This is the person legally authorised to sign the application and the grant agreement on behalf of the co-ordinating institution.

| | | | |
|--|--|-------------------------------|---|
| Full legal name of the institution in the national language | Limburgs Universitair Centrum | | |
| Acronym of the institution, if applicable | LUC | | |
| Full name of the institution in English (formal or informal translation) | Limburgs University Center | | |
| Country code | BE | Region code | BE22 |
| Type of institution | University | Erasmus University Charter N° | |
| Website | http://www.luc.ac.be | | |
| Legal representative of the institution: | Family name First name | De Schepper Luc | Title (e.g. Prof., Dr., etc.) Prof |
| Department / Unit | Rectoraat | | |
| Official function within the institution | Rector | Sex | <input type="checkbox"/> F (female) <input checked="" type="checkbox"/> M (male) |
| Legal address of the institution: Street & Street Number Post Code & Town Country | Agoralaan 1, Universitaire Campus B3590 Diepenbeek Belgium | | |
| Phone (including country and area code) | +32 / 11 / 268000 | | |
| Fax (including country and area code) | +32 / 11 / 268199 | | |
| E-mail | luc.deschepper@luc.ac.be | | |
| Is the institution able to recover VAT? | Yes (CHECK) | | |

6.2 Co-ordinator

This is the manager of the Masters Course. All correspondence relating to the Masters Course will be addressed to this person.

| | | | |
|---|-----------------------------|----------------------------------|---|
| Family name First name | Molenberghs Geert | Title (e.g. Prof., Dr., etc.) | Prof |
| Institution (only if different from point 6.1 above) / Department | | | |
| Official function within the institution | Head of Department | Sex | <input type="checkbox"/> F (female) <input checked="" type="checkbox"/> M (male) |
| Correspondence address (only if different from point 6.1 above): Street & Street Number Post Code & Town Country | | | |
| Phone (including country and area code) | +32 / 11 / 268205 | | |
| Fax (including country and area code) | +32 / 11 / 268299 | | |
| E-mail | geert.molenberghs@luc.ac.be | | |

6.3 Person in charge of finance

| | | | |
|---|----------------------------|----------------------------------|---|
| Family name First name | Boets Greet | Title (e.g. Prof., Dr., etc.) | Ms |
| Department / Unit | Finance Department | | |
| Official function within the institution | Head of Finance Department | Sex | <input checked="" type="checkbox"/> F (female) <input type="checkbox"/> M (male) |
| Correspondence address (only if different from point 6.1 above): Street & Street Number Post Code & Town Country | | | |
| Phone (including country and area code) | +32 / 11 / 268000 | | |
| Fax (including country and area code) | +32 / 11 / 268199 | | |
| E-mail | greet.boets@luc.ac.be | | |

6.4 Financial identification

Please complete and sign the form in Annex 2 and attach it to your application.

7. Partner institutions of the Masters consortium

- To fill in this part, please use the country codes and region codes indicated in Annex 1.
- The minimum number of partners required is two.
- Add numbers and copies of this page, if necessary.

Partner institution No 1

| | | | | | |
|--|--|-------------------------------|---------------------|---------------------------------|------|
| Full legal name of the institution in the national language | University of Lancaster | | | | |
| Acronym of the institution, if applicable | | Erasmus University Charter N° | | | |
| Full name of the institution in English (formal or informal translation) | | | | | |
| Type of institution | University | Country code | UK | Region code | UKD4 |
| Department / Unit | Department of Mathematics and Statistics | | | | |
| Contact person | Family Name: Diggle | | Function: Professor | | |
| | First Name: Peter J. | | Male X | Female <input type="checkbox"/> | |
| Address: Street & Street Number Post Code & Town Country | Fylde College Lancaster University, Lancaster LA1 4YF United Kingdom | | | | |
| Phone (including country and area code) | + 44 / 1524 / 593960 | | | | |
| Fax (including country and area code) | + 44 / 1524 / 592681 | | | | |
| E-mail | mathematics@ lancaster.ac.uk | | | | |
| Website | http:// www.maths.lancs.ac.uk | | | | |
| Is the institution able to recover VAT? | | | | | |

Partner institution No 2

| | | | | | |
|--|--|-------------------------------|---------------------|---------------------------------|------|
| Full legal name of the institution in the national language | London School of Hygiene and Tropical Medicine | | | | |
| Acronym of the institution, if applicable | LSHTM | Erasmus University Charter N° | | | |
| Full name of the institution in English (formal or informal translation) | | | | | |
| Type of institution | Academic Research and Training Inst | Country code | UK | Region code | UK11 |
| Department / Unit | Medical Statistics Unit | | | | |
| Contact person | Family Name: Kenward | | Function: Professor | | |
| | First Name: Michael G. | | Male X | Female <input type="checkbox"/> | |
| Address: Street & Street Number Post Code & Town Country | Keppel Street London WC1E 7HT UK | | | | |
| Phone (including country and area code) | + 44 / 20 / 79272472 | | | | |
| Fax (including country and area code) | + 44 / 207 / 6372853 | | | | |
| E-mail | Mike.kenward@lshtm.ac.uk | | | | |
| Website | http:// www.lshtm.ac.uk | | | | |
| Is the institution able to recover VAT? | | | | | |

Partner institution No 3

| | | | | | |
|--|--|-------------------------------|----------|-------------|------|
| Full legal name of the institution in the national language | Universitat Politècnica de Catalunya | | | | |
| Acronym of the institution, if applicable | UPC | Erasmus University Charter N° | | | |
| Full name of the institution in English (formal or informal translation) | Catalan Polytechnic University | | | | |
| Type of institution | University | Country code | ES | Region code | ES51 |
| Department / Unit | Statistics and Operations Research | | | | |
| Contact person | Family Name: Gomez i Melis | Function: Professor | | | |
| | First Name: Guadalupe | Male <input type="checkbox"/> | Female X | | |
| Address: Street & Street Number Post Code & Town Country | Campus Sud – Edif. H Avda. Diagonal, 647 08028 Barcelona, España | | | | |
| Phone (including country and area code) | + 34 / 93 / 4016569 | | | | |
| Fax (including country and area code) | + 34 / 93 / 4016575 | | | | |
| E-mail | Users-eio@ eio.upc.es | | | | |
| Website | http:// www.upc.edu | | | | |
| Is the institution able to recover VAT? | | | | | |

Partner institution No 4

| | | | | | |
|--|--|-------------------------------|---------------------------------|-------------|------|
| Full legal name of the institution in the national language | Universidad de Santiago de Compostela | | | | |
| Acronym of the institution, if applicable | USC | Erasmus University Charter N° | | | |
| Full name of the institution in English (formal or informal translation) | University of Santiago de Compostella | | | | |
| Type of institution | University | Country code | ES | Region code | ES11 |
| Department / Unit | Department of Statistics and Operations Research | | | | |
| Contact person | Family Name: Gonzalez-Manteiga | Function: Professor | | | |
| | First Name: Wenceslao | Male X | Female <input type="checkbox"/> | | |
| Address: Street & Street Number Post Code & Town Country | Faculty of Mathematics 15782 Santiago de Compostela España | | | | |
| Phone (including country and area code) | + 34 / 981 / 563100 | | | | |
| Fax (including country and area code) | + 34 / 981 / 597054 | | | | |
| E-mail | eisec@usc.es | | | | |
| Website | http:// eio.usc.es | | | | |
| Is the institution able to recover VAT? | | | | | |

SECTION 2 - DESCRIPTION OF THE ERASMUS MUNDUS MASTERS COURSE

- Please describe the following aspects of your Masters Course, using the same order and numbering as given in the list of questions.
- You are invited to read the relevant chapters of the *Erasmus Mundus Call for Proposals EAC/04/05* carefully, before filling in this section.
- Please enclose supporting documents only where these have a direct and material bearing on your application.
- Please respect the maximum length of text indicated, excluding supporting documents.

1. GENERAL INFORMATION ON THE MASTERS COURSE

1.1 General discipline

- Agricultural sciences
- Architecture, urban and regional planning
- Art and design
- Business studies, management sciences
- Communication and information sciences
- Education, teacher training
- Engineering, technology
- Geography, geology
- Humanities
- Languages and philological sciences
- Law
- Mathematics, informatics
- Medical sciences
- Natural sciences
- Social sciences
- Other:

Specific discipline (if further specification is useful): Biostatistics, with emphasis on medical statistics

1.2 Duration and ECTS credits

The full-degree programme covers:

- one year (60 ECTS credits)²
- one year and 3 months (80 ECTS credits)
- two years (120 ECTS credits)²

1.3 Student population and number of staff involved in the Masters Course: 140 students, 40 staff

1.4 Final degree delivered

- joint
- double
- multiple

² If your Masters Course carries more than the standard credits, please indicate how many and provide further details under point 2.2.

2. DETAILED DESCRIPTION OF THE MASTERS COURSE (max. 15 pages excluding annexes e.g. CVs, etc.)

Study programme and recognition

- 2.1 Describe the objectives of the Masters Course. Describe how the Masters Course contributes towards university excellence and European competitiveness.

The objective is to offer a solid, international training in biostatistics, in institutions with a strong record in education, research, and scientific collaboration in this area. The Limburgs Universitair Centrum has run an MSc in Biostatistics for over 17 years and has been the beneficiary of a Flemish Interuniversity Council Grant, allowing enrolment of 16 students from developing countries, in the two-year programme. Lancaster University has run an MSc in Statistics, with a strong branch in Medical Statistics, for XX years, and they have been recognized as a Centre of Excellence for Training and Teaching by the UK HEFCE. The London School of Hygiene and Tropical Medicine has run an MSc in Medical Statistics for XX years. They have extensive experience with the training of students from developing countries. The UPC and USC have strong training programs in statistics, at the predoctoral and postdoctoral level.

The various partner institutes have specific research expertise in a number of areas featuring on the curriculum. Students will be able, for example, to make use of the extensive clinical trial, epidemiology, infectious diseases expertise of the LSHTM partner, the longitudinal, survival, event history, and environmental expertise of Lancaster, the longitudinal, incomplete data, and clinical trial expertise of LUC, etc.

- 2.2 Describe the structure and the content of the study programme in detail indicating the value of each part of the programme in ECTS credits. Describe the role of each institution within the consortium in course delivery indicating which part of the programme is delivered by which institution.

The course is organized in four trimesters. The first trimester is taken either at LUC, or at Lancaster, or at the LSHTM.

First term LUC (20 ECTS):

- Principles of Statistical Inference (5 ECTS)
- Foundations of Linear Models (5 ECTS)
- Applied Data Modelling (5 ECTS)
- Medical Biology (5 ECTS)

First term Lancaster (20 ECTS):

- Bayesian Inference (5 ECTS)
- Generalised Linear Models (5 ECTS)
- Advanced Likelihood Inference (5 ECTS)
- Statistics in Practice (5 ECTS)

First term LSHTM (20 ECTS):

- Fundamentals of Medical Statistics (5 ECTS)
- Statistical Inference (5 ECTS)
- Clinical Trials (5 ECTS)
- Basic Epidemiology (5 ECTS)

Students switch over to another institution during the second and third terms. They complete these two terms within the same institution, unless there is a motivated and honoured request to do otherwise.

Second/third terms at LUC (40 ECTS):

- Multivariate Data Analysis (5 ECTS)
- Longitudinal Data Analysis (5 ECTS)

- Epidemiology (5 ECTS)
- Advanced Modelling Techniques (5 ECTS)
- Survival Data Analysis (5 ECTS)
- Genetic Data Analysis (5 ECTS)
- Two out of: Modelling Infectious Diseases, Bayesian Data Analysis (not for Lancaster students), Bioinformatics, Topics in Epidemiology (5 ECTS for each of the two courses, 10 ECTS in total)

Second/third terms at Lancaster (40 ECTS)

- Longitudinal Data Analysis (5 ECTS)
- Epidemiology (5 ECTS)
- Survival and Event History Analysis (5 ECTS)
- Environmental Epidemiology (5 ECTS)
- Clinical Trials (5 ECTS)
- Special Topics in Biostatistics (5 ECTS)
- Two out of: Geostatistics, Time Series Regression, Environmental Stochastic Processes, Extremes (5 ECTS for each of the two courses, 10 ECTS in total)

Second/third terms at LSHTM (40 ECTS)

- Statistical Methods in Medical Research (5 ECTS)
- Statistical Methods in Epidemiology (5 ECTS)
- Analysis of Hierarchical and Dependent Data (5 ECTS)
- Genetic Epidemiology (5 ECTS)
- Bayesian Data Analysis & Computer Intensive Methods (5 ECTS)
- Modelling and Dynamics of Infectious Diseases (5 ECTS)
- Two out of: Advanced Statistical Methods in Medical Research, Epidemiology and Control of Communicable Diseases, Epidemiology and Control of Non-Communicable Diseases, AIDS (5 ECTS for each of the two courses, 10 ECTS in total)

Second/third terms at UPC (40 ECTS)

- Survival Analysis (5 ECTS)
- Statistical Forecasting Methods (5 ECTS)
- Operations Research Methods and Techniques (5 ECTS)
- Experimental Design and Process Optimisation (5 ECTS)
- Multidimensional Data Analysis Methods (5 ECTS)
- Simulation Environments (5 ECTS)
- Advanced Operations Research (5 ECTS)
- Advanced Techniques in Experimental Design (5 ECTS)

Second/third terms at USC (40 ECTS)

- INPUT REQUIRED FROM CARMEN

Fourth term (20 ECTS)

The students conduct a 2-3 month training in a third partner institution. They write a project report (dissertation) about the project and defend it orally.

2.3 Describe the acquired competencies and the learning outcomes of the Masters Course.

Fundamental scientific goals : the student should

1. be able to deal with scientific problems in an autonomous and efficient way

2. have a good understanding for the theoretical basis of biostatistical methodology, and be able to link concepts into applications
3. acquire a critical scientific way of thinking, allowing him to obtain new knowledge independently
4. be stimulated to continue scientific research, and master the basics of the scientific method in an interdisciplinary framework
5. be able to view the biostatistical science and the job of biostatistician in a broad international framework

Concrete practical goals: the student should

1. obtain interrelation skills to efficiently cooperate in team work
2. master communication skills, with peers as well as with colleagues from other disciplines
3. be capable of writing thorough scientific reports according to the guidelines of scientific journals in the concerned discipline areas (biostatistical, medical, biological, agricultural, epidemiological, ...) and of giving clearly structured oral presentations, for both technical and non-technical audiences
4. be able to discover structures in the usually complex questions of clients, and plan and follow up on the assignment within the available time and with the most adequate statistical techniques, combining and extending knowledge from different areas
5. be confronted with real-life situations of the biostatistician, starting from realistic study designs and data sets, be able to consider pro's and con's of different approaches and come to a justified choice
6. be able to oversee and contribute to complex studies (e.g., clinical or epidemiological studies) from planning until analyzing and reporting the results
7. be able to assess the impact of biostatistics on policy decisions, health care, agriculture and environment, etc., and be able to participate in the social debate, without avoiding ethical considerations
8. master the necessary technical competences to process and analyse data with statistical software, and be able to, if necessary, learn how to master new software or write new macro's

Topic-specific competences in own discipline (biostatistics): the student should

1. be able to actively and adequately participate in the design of studies, and be aware of the consequences of the design on further analysis (experimental studies, observational studies, survey methodology, ...)
2. know how to determine sample size and collect data
3. be able to use graphical tools to explore, summarize and describe numerical data
4. recognise patterns and structures in data (independence, correlations, repeated measurements, missing data, ...)
5. have a fundamental insight in basic theoretical concepts (probability theory, distributions, estimation theory, hypothesis testing, ...) as well as in the theories supporting the analysis methodology (frequentist, likelihood and Bayesian inference, linear and generalized linear models, repeated measurements and survival analysis, likelihood alternatives, semi- and non-parametric approaches, ...)
6. dispose of a range of statistical modelling techniques and know how to correctly use them (simple, multiple and logistic regression, analysis of variance, discrete data analysis, multivariate methods, repeated measurements, survival analysis, semi- and non-parametric techniques, ...)
7. be capable of correctly interpreting results of analyses
8. know the limitations of statistical analyses, take them into account and let them be known when presenting an optimal solution to a problem
9. be capable of autonomously understanding the underlying concepts of new methods to apply and/or extend them to new situations
10. view new developments and applications in statistics in a general framework and not as separate techniques, follow these developments closely, and fathom the implications on the own research
11. know the professional literature and be able to efficiently collect and evaluate statistical information (journals, internet, ...)
12. develop an overall analytical and synthetic reasoning power to solve, individually as well as in team, real statistical problems and to write and defend a thorough scientific report (master thesis). A lot of attention is focused on the context of the underlying problem.

Topic-specific competences in auxiliary disciplines: the student should

1. have adequate skills in calculus (derivatives and integrals) and in applied linear algebra to understand the background of applied statistical techniques
2. master word processors and presentation software, as well as internet explorers
3. master more than one statistical software package, be able to manipulate data across different systems, be able to autonomously master new software and write macro's in open languages and packages
4. recognise the specificity of statistical software, and know which packages and procedures are most adequate for typical data analyses
5. be able to correctly interpret output
6. have insight in the combined play between statistics and fast computational techniques, and be able to use this knowledge for analyses based on computer intensive methods
7. have developed the attitude to maintain the above competences by self study and literature follow up
8. know methods and master software to manage data bases, and detect relations within data bases

Topic-specific competences in application areas: the student should

1. develop the attitude to follow up on biostatistics methodological literature, as well as on literature in relevant areas of application (e.g., oncology or AIDS, literature on certain agricultural topics like post harvest technology) to maintain a high-principled interaction with biostatistics
2. be capable of mastering an area of application (biology, genetics, toxicology, ...) to perform collective research in a multidisciplinary research team

Discipline exceeding competences: the student should

1. be able to report clearly and professionally, also in an international context, and know the criteria and guidelines for scientific reports
2. be able to give clear and motivated oral presentations, on a level adjusted to the audience, and be capable of evaluating when and how modern audiovisual aids can support a presentation
3. learn how to work in a team, stimulating the group atmosphere and motivation
4. be able to plan and finish individual tasks as well as group assignments on time

5. develop a feeling on how to achieve effective consulting. This includes adjusting to the terminology of the client, clarifying and reformulating scientific questions into understandable statistical procedures, making arrangements on the procedure to follow and formulating clear conclusions
6. be trained in working in an international context, with peer students from countries all over the world, handling international English literature, and assuming a position in an international context (where English is almost always one of the working languages)
7. be trained with the correct scientific attitude and adequate assertiveness to be able to pass on to the non-biostatisticians the importance and the limitations of the contribution of a biostatistician, as a participant in a multidisciplinary research project

2.4 List the partner institutions awarding the final degree and describe the title and the type of the final degree awarded by filling in the table below. Add further rows to the table, if necessary. Describe the role of each partner institution in the degree-awarding arrangements. Indicate if all successful students (European and third-country) receive the same final degree.

| Name of institution | Title of degree awarded for this Masters Course by this institution | Type of degree awarded | Date and reference of formal approval of degree (Provide details of approval procedures under point 2.5) |
|-------------------------------|---|--|---|
| Limburgs Universitair Centrum | Master of Science in Biostatistics | <input type="checkbox"/> double <input type="checkbox"/> multiple <input type="checkbox"/> joint | Formally approved by the Flemish Government - DATE |
| | | <input type="checkbox"/> double <input type="checkbox"/> multiple <input type="checkbox"/> joint | |
| | | <input type="checkbox"/> double <input type="checkbox"/> multiple <input type="checkbox"/> joint | |

2.5 Describe the policy and the legal procedures within the Masters consortium for the recognition of programme components and the programme as a whole. Provide details of legal approval procedures for those partner institutions which deliver the joint, double or multiple degree. Provide proof that the degree is officially recognised by the countries concerned.³

The contributing programmes of the partner institutions are recognized by the respective institutions (their academic authorities and national authorities). Students formally enrol in the institution where the first term is followed. The main institution recognizes the courses of each of the partner institutes for the second, third, and fourth terms. They will be listed on the Diploma Supplement, with indication of course title, course description, ECTS, and partner institution involved.

2.6 Indicate if the Diploma Supplement is used by the Masters consortium.

Yes, as indicated in 2.5. The Diploma Supplement will explicitly mention the Erasmus Mundus Label.

2.7 Indicate if the Masters Course has been newly created or if it has already existed.

Advanced and highly respected Master Programs have been in existence at LUC, Lancaster, and LSHTM. The current proposal combines these courses, with existing Doctoral Program Courses in UPC and USC. Students will be able to choose courses and institutions to (1) match their interests and professional requirements and (2) make use of the research expertise that various partners have in a variety of topics.

Teaching staff

2.8 Describe the professional and academic experience of the teaching staff who will deliver the core parts of the study programme. Enclose summary CVs of a maximum of 2 pages for each of the persons concerned in an annex.⁴

³ You are advised to check with your Erasmus Mundus National Structure whether they can provide a model for the proof you have to submit in your national context.

⁴ If you apply for an Erasmus Mundus Masters Course including a preparatory year, you may not be in a position to provide this information fully.

BEFORE STARTING DESCRIPTIONS, WE SHOULD LIST NAMES

LUC:

Noël Veraverbeke
Paul Janssen
Marc Aerts
Geert Molenberghs
Geert Verbeke
Ziv Shkedy
Tomasz Burzykowski
Joost Weyler
Marc Buyse

Lancaster:

Peter J. Diggle
Robin Henderson

LSHTM:

Michael G. Kenward
Stuart Pocock

UPC:

Guadalupe Gomez i Melis

USC:

Wenceslao Gonzalez-Manteiga
Carmen Cadarso Suarez

2.8 Describe the availability and presence of teaching staff for enrolled students

Since the teaching staff is involved in regularly running MSc and doctoral courses, with a strong and long tradition, there is no problem of availability for the program in the current application. Administrative staff is available to ensure a smooth running of the location-specific and coordination aspects of the Master Course.

Admission, application, selection, examination criteria

2.10 Describe the common admission criteria, application procedure, selection process and examination criteria for students within the Masters consortium. Indicate all admission conditions for students, including any additional ECTS requirements or qualifications needed following the first degree.

Students will have to pass through the admission boards of one of the three institutions (LUC, Lancaster, and LSHTM), where the first term will be taken.

For LUC, a solid and demonstrable training at the undergraduate or graduate level in mathematics, statistics, or related scientific field is required, as well as working knowledge of English, since the courses are taught in the English language.

- 2.11 Indicate if students have to pay tuition fees. If so, give the amount of the fee for third-country and European students. Indicate when and where the students have to pay these fees and how the fees are distributed between the members of the consortium.

LUC: tuition fee is 488 euro for all students.

Mobility arrangements

- 2.12 Describe the mechanisms of student and scholar mobility between the institutions of the Masters consortium. Indicate all mobility combinations, the duration of mobility periods and the number of ECTS credits acquired during mobility.

The programs requires that students take the first term in one institution, the second and third terms in another institutions, and the fourth term (project) in yet another institution.

Third-country students and scholars⁵

- 2.13 Describe the mechanisms within the Masters consortium to reach out to potentially interested third-country students and scholars.

LUC has a VLIR (Flemish Interuniversity Council) grant, enrolling 16 students a year from developing countries. This has established a strong network of current and former students from third countries. OTHER INSTITUTIONS.

Efforts will be taken to couple the existing outreach programs to the Erasmus Mundus program, so that these students can have additional benefits from their study stay in Europe. If necessary, tailor-made versions of the programs will be considered, so that commitments with the granting bodies can be honoured.

- 2.14 With reference to question 2.10, describe if special conditions apply to third-country students. Also, describe the application and selection process for third-country scholars.

LUC. The same conditions apply. Students with a weak background in statistics may be directed first to LUC's Master of Science in Applied Statistics Programme. Thereafter, they can enrol in the Master of Science in Biostatistics and, by extension, also for the Erasmus Mundus Programme.

- 2.15 Describe how third-country students and scholars will be distributed within the Masters consortium.

Since the students will visit three partners of the consortium, a mix over the various partners will happen automatically.

- 2.16 Describe the services provided by the Masters consortium to welcome and host third-country students and scholars (international office, housing facilities, coaching and counselling, welfare services, language courses, activities aiming at social integration, services for students with a family or special needs, other support measures, etc.).

Since LUC hosts at any point in time more than 30 students from developing countries, there is a well established internal office service, offering the services mentioned in the question (housing, administrative support). A group of staff members is charged with mentoring regarding academic affairs, while others look into non-academic affairs. A lively student organization groups current and former students and organizes a variety of social and cultural activities.

- 2.17 Describe the financial management and payment mechanisms of scholarships for third-country students and scholars within the Masters consortium.

LUC. The tuition fee, as a consequence of the Belgian constitution and corresponding legislation, is very low. Nevertheless, if necessary, arrangements are made to facilitate payment.

⁵ If you apply for an Erasmus Mundus Masters Course including a preparatory year, you may not be in a position to provide this information fully.

Language policy

- 2.18 Describe the language policy applied within the Masters consortium, including language(s) of instruction, language(s) of examinations, and language learning support offered.

Courses are offered in English in all partner institutions, while national and regional languages differ at LUC (Dutch), Barcelona (Catalan), and Santiago de Compostella (Galician). The three Regions have an active policy of national and regional linguistic protection, and ample opportunities exist to learn Dutch, Spanish, Catalan, and Galician. We believe the linguistic variety, with at the same time the facility to take classes in English, is a unique opportunity for international students to get acquainted with the fundamental values of the European Union. In particular, scientific and academic collaboration is combined with respect, knowledge, and study of local culture, history, tradition, and language.

Quality assurance and evaluation

- 2.19 Describe how the quality of the Masters Course as well as ECTS mechanisms (including the “grading scale”) or other mechanisms based on ECTS are assured. Explain if quality assurance is carried out internally by the Masters consortium or by an external body. Any processes and procedures developed in response to specific needs of the study programme should be detailed.

LUC. The examination board ensures level and quality of intake. The educational experts survey the quality of the courses and so does the Board of Advisors of the MSc programs. External visitations, staffed by international experts, take place on a regular basis. They are organized by the Flemish Interuniversity Council, for the program in general and its developing country program in particular.

- 2.20 Describe the evaluation and quality assessment mechanisms within the Masters consortium. Indicate if third-country students and scholars will be invited to assess the Masters Course at the end of their stay.

The partner-specific quality assessment mechanisms will be used in full. In addition, consortium-specific mechanisms will be implemented to ensure the integrity of the program as a whole, across the various institutions, is maintained. Students will be brought together in evaluation meetings at the end of every term and detailed reports will be made.

Co-operation aspects

- 2.21 Describe the co-operation mechanisms within the Masters consortium.

I SUGGEST A CONSORTIUM SPECIFIC BOARD, WITH ONE REPRESENTATIVE PER INSTITUTION.

- 2.22 Describe briefly the administrative staffing and the funding of the Masters consortium.

INPUT AND IDEAS FROM PARTNERS PLEASE

Preparatory year

- 2.23 In case your Masters consortium applies for a Course including a preparatory year, describe the reasons why. Describe the activities you will carry out during the preparatory year, in particular indicate if the Masters Course will run during the preparatory year.

Other aspects

- 2.24 Explain to which extent the Masters Course is linked to research activities.

The Master Course is organised such that the research strengths of each partner institute, for which they enjoy international recognition, can be brought to value through appropriate study trajectories. See, for example, the research strengths detailed under 2.1. In this sense, the Master Course is stronger than each of the pillars on which it is built, in spite of the fact that these are strong already and have received a variety of national and international recognition and support.

2.25 Explain in how far the Masters Course has a distinctive European added value.

The Master Course will help strengthen the field of biostatistics at the highest possible level. The field is largely spearheaded by the United States and every effort should be undertaken to both strengthen the educational institutions and the pool of students who have received top level training from academic institutions. It will help strengthen the field which plays a crucial role in medicine, public health, epidemiology, agriculture, the environment, biology, genetics, etc.

In addition, the students will be exposed at the same time to a strong European sense of collaboration in the field of biostatistics as well as to local regional culture and language, one of the defining aspects of the European Union.

2.26 Describe any aspect of the Masters Course which offers potential examples of good practice and which could be disseminated more widely.

The fact that master level training is rooted in high level scientific activity. Researchers from the participating institutions enjoy a strong international reputation in sub-fields of statistics and biostatistics, not only in Europe, but in the world at large. Such topics include longitudinal data, survival data, clinical trials, incomplete data, infectious disease, environmental models, time series, geostatistical data, etc.

2.27 Describe any other aspect of the Masters Course which is not covered by the previous questions and which can be of relevance for the assessment of your application.

SECTION 3 - GRANT REQUESTED

- Please read the relevant section of the *Erasmus Mundus Call for Proposals EAC/04/05* and the *Administrative and Financial Handbook for Erasmus Mundus Projects*.
- The requested grant of 15,000 € refers to the first year of the five-year period for which an Erasmus Mundus Masters Course will be selected. This amount applies to Erasmus Mundus Masters Courses with or without a preparatory year.

| | |
|--|-----------------|
| Total grant requested by the Consortium for the academic year 2006/2007 | 15,000 € |
|--|-----------------|

SECTION 4 - DECLARATION

To be completed by the legal representative of the co-ordinating institution indicated under Section 1, point 6.1 above.

I, the undersigned, certify that the information contained in this application is correct to the best of my knowledge.

If my institution is private in nature, I declare on my honour that it has the financial and operational capacity to carry out the proposed Masters Course.

I declare on my honour that neither I nor my institution is in any of the situations listed under point 12 of the *Erasmus Mundus Call for Proposals EAC/04/05*.

I am aware that the Erasmus Mundus Masters consortium which submits this application commits itself to participate in Action 1 and Action 2 (scholarships) of the Erasmus Mundus programme for a period of five years, if my application is successful.

I am aware that penalties may be applied in the case of a false declaration.

In the event that my application is successful, I authorise the Commission to publish on its internet site or in any other appropriate medium:

- The name and address of the beneficiary of the Erasmus Mundus grant;
- The subject of the grant;
- The amount awarded to the approved Masters Course.

Place: _____ Date: / / (day/month/year)

Signature: _____ Stamp of the co-ordinating institution: _____

Name and position in capitals: _____

Checklist

| | |
|---|--------------------------|
| The application is completed in full. All questions have been answered. | <input type="checkbox"/> |
| Each page has been numbered. | <input type="checkbox"/> |
| The application has been typewritten or word-processed. | <input type="checkbox"/> |
| The original application has been signed by the legal representative of the co-ordinating institution and stamped. | <input type="checkbox"/> |
| Copies of letters from the appropriate authorities of each institution participating in the Masters Course, confirming their agreement with the application as submitted are attached. | <input type="checkbox"/> |
| Proof of the official recognition of the degree(s) is attached. | <input type="checkbox"/> |
| The financial identification form has been filled in and duly signed in original (see Annex 2). | <input type="checkbox"/> |
| The original application and 2 copies thereof are being sent to the address indicated on page 2 of the application form by rapid post and e-mail, in the same envelope and before the closing date. | <input type="checkbox"/> |
| Paper and electronic copies of this application are being sent to the National Structures in the countries of each of the participating institutions before the closing date. | <input type="checkbox"/> |

ANNEXES

| |
|--|
| List of codes to be used in the application |
|--|

You will find here the codes you will have to use when filling in the application, i.e.:

- Country codes
- Region codes (NUTS)

| Country codes | | | |
|----------------------|----------------|----|-----------------|
| BE | Belgium | HU | Hungary |
| CZ | Czech Republic | MT | Malta |
| DK | Denmark | NL | The Netherlands |
| DE | Germany | AT | Austria |
| EE | Estonia | PL | Poland |
| ES | Spain | PT | Portugal |
| FR | France | SI | Slovenia |
| GR | Greece | SK | Slovak Republic |
| IE | Ireland | FI | Finland |
| IT | Italy | SE | Sweden |
| CY | Cyprus | UK | United Kingdom |
| LV | Latvia | IS | Iceland |
| LT | Lithuania | LI | Liechtenstein |
| LU | Luxembourg | NO | Norway |

REGION CODES (NUTS)

BE BELGIUM

| | |
|-----|----------------------------|
| BE1 | BRUXELLES CAP. BRUSSEL HOF |
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| BE21 | ANTWERPEN |
| BE22 | LIMBURG |
| BE23 | OOST-VLAANDEREN |
| BE24 | VLAAMS BRABANT |
| BE25 | WEST VLAANDEREN |

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| BE31 | BRABANT WALLON |
| BE32 | HAINAUT |
| BE33 | LIEGE |
| BE34 | LUXEMBOURG |
| BE35 | NAMUR |

DK DANMARK

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| DK001 | Københavns og Frederiksberg Kommuner |
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| DK002 | KØBENHAVNS AMT |
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| DK003 | FREDERIKSBORG AMT |
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| DK004 | ROSKILDE AMT |
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| DK005 | VESTSJÆLLANDS AMT |
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| DK006 | STORSTRØMS AMT |
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| DK007 | BORNHOLMS AMT |
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| DK008 | FYNS AMT |
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| DK009 | SØNDERJYLLANDS AMT |
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| DK00A | RIBE AMT |
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| DK00B | VEJLE AMT |
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| DK00C | RINGKØBING AMT |
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| DK00D | ÅRHUS AMT |
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| DK00E | VIBORG AMT |
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| DK00F | NORDJYLLANDS AMT |
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DE DEUTSCHLAND

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| BADEN WÜRTTEMBERG | |
| DE11 | STUTT GART |
| DE12 | KARLSRUHE |
| DE13 | FREIBURG |
| DE14 | TÜBINGEN |

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| BAYERN | |
| DE21 | OBERBAYERN |
| DE22 | NIEDERBAYERN |
| DE23 | OBERPFALZ |
| DE24 | OBERFRANKEN |
| DE25 | MITTELFRANKEN |
| DE26 | UNTERFRANKEN |
| DE27 | SCHWABEN |

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| DE3 | BERLIN |
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| DE4 | BRANDENBURG |
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| DE5 | BREMEN |
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| DE6 | HAMBURG |
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| NIEDERSACHSEN | |
| DE91 | BRAUNSCHWEIG |
| DE92 | HANNOVER |
| DE93 | LÜNEBURG |
| DE94 | WESER-EMS |

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| NORDRHEIN-WESTFALEN | |
| DEA1 | DÜSSELDORF |
| DEA2 | KÖLN |
| DEA3 | MÜNSTER |
| DEA4 | DETMOLD |
| DEA5 | ARNSBERG |

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| RHEINLAND-PFALZ | |
| DEB1 | KOBLENZ |
| DEB2 | TRIER |
| DEB3 | RHEINHESSEN - PFALZ |

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| DEC | SAARLAND |
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| SACHSEN | |
| DED1 | CHEMNITZ |
| DED2 | DRESDEN |
| DED3 | LEIPZIG |

| HESSEN | |
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| DE71 | DARMSTADT |
| DE72 | GIESSEN |
| DE73 | KASSEL |

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| DE8 | MECKLENBURG-VORPOMMERN |
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| GR | ELLADA |
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| VOREIA ELLADA | |
|---------------|-----------------------------|
| GR11 | ANATOLIKI MAKEDONIA, THRAKI |
| GR12 | KENTRIKI MAKEDONIA |
| GR13 | DYTIKI MAKEDONIA |
| GR14 | THESSALIA |

| KENTRIKI ELLADA | |
|-----------------|---------------|
| GR21 | IPEIROS |
| GR22 | IONIA NISIA |
| GR23 | DYTIKI ELLADA |

| ES | ESPAÑA |
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| NOROESTE | |
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| ES11 | GALICIA |
| ES12 | ASTURIAS |
| ES13 | CANTABRIA |

| NORESTE | |
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| ES21 | PAÍS VASCO |
| ES22 | NAVARRA |
| ES23 | LA RIOJA |
| ES24 | ARAGÓN |

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| ES3 | COMUNIDAD DE MADRID |
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| ES7 | CANARIAS |
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| SACHSEN-ANHALT | |
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| DEE1 | DESSAU |
| DEE2 | HALLE |
| DEE3 | MAGDEBURG |

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| DEF | SCHLESWIG-HOLSTEIN |
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| DEG | THÜRINGEN |
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| GR3 | ATTIKI |
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| NISIA AIGAIU, KRITI | |
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| GR41 | VOREIO AIGAIO |
| GR42 | NOTIO AIGAIO |
| GR43 | KRITI |

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| GR24 | STEREA ELLADA |
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| GR25 | PELOPONNISSOS |
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| ESTE | |
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| ES51 | CATALUÑA |
| ES52 | COMUNIDAD VALENCIANA |
| ES53 | ISLAS BALEARES |

| SUR | |
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| ES61 | ANDALUCIA |
| ES62 | MURCIA |
| ES63 | CEUTA Y MELILLA |

| CENTRO | |
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| ES41 | CASTILLA-LEÓN |
| ES42 | CASTILLA- LA MANCHA |
| ES43 | EXTREMADURA |

| FR | FRANCE |
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| FR1 | ILE DE FRANCE |
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| BASSIN PARISIEN | |
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| FR21 | CHAMPAGNE – ARDENNE |
| FR22 | PICARDIE |
| FR23 | HAUTE NORMANDIE |
| FR24 | CENTRE |
| FR25 | BASSE NORMANDIE |
| FR26 | BOURGOGNE |

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| FR3 | NORD - PAS DE CALAIS |
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| EST | |
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| FR41 | LORRAINE |
| FR42 | ALSACE |
| FR43 | FRANCHE-COMTE |

| SUD-OUEST | |
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| FR61 | AQUITAINE |
| FR62 | MIDI-PYRENEES |
| FR63 | LIMOUSIN |

| CENTRE-EST | |
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| FR71 | RHÔNE-ALPES |
| FR72 | AUVERGNE |

| MEDITERRANEE | |
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| FR81 | LANGUEDOC-ROUSSILLON |
| FR82 | PROVENCE-ALPES-CÔTES D'AZUR |
| FR83 | CORSE |

| OUEST | |
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| FR51 | PAYS DE LOIRE |
| FR52 | BRETAGNE |
| FR53 | POITOU-CHARENTE |

| DEPARTEMENTS D'OUTRE-MER | |
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| FR91 | GAUDELLOUPE |
| FR92 | MARTINIQUE |
| FR93 | GUYANE |
| FR94 | REUNION |

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| IE | IRELAND |
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| IE011 | BORDER |
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| IE023 | MID-WEST |
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| IE021 | DUBLIN |
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| IE024 | SOUTH-EAST (IRL) |
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| IE022 | MID-EAST |
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| IE025 | SOUTH-WEST (IRL) |
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| IE012 | MIDLAND |
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| IE013 | WEST |
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| IT | ITALIA |
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| NORD OVEST | |
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| IT11 | PIEMONTE |
| IT12 | VALLE D'AOSTA |
| IT13 | LIGURIA |

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| IT6 | LAZIO |
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| IT2 | LOMBARDIA |
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| ABRUZZO-MOLISE | |
|----------------|---------|
| IT71 | ABRUZZO |
| IT72 | MOLISE |

| NORD EST | |
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| IT31 | TRENTINO-ALTO ADIGE |
| IT32 | VENETO |
| IT33 | FRIULI-VENEZIA GIULIA |

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| IT8 | CAMPANIA |
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| IT4 | EMILIA-ROMAGNA |
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| SUD | |
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| IT91 | PUGLIA |
| IT92 | BASILICATA |
| IT93 | CALABRIA |

| CENTRO | |
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| IT51 | TOSCANA |
| IT52 | UMBRIA |
| IT53 | MARCHE |

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| ITA | SICILIA |
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| ITB | SARDEGNA |
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| LU | LUXEMBOURG (Grand Duché) |
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| NL | NEDERLAND |
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| NOORD-NEDERLAND | |
|-----------------|-----------|
| NL11 | GRONINGEN |
| NL12 | FRIESLAND |
| NL13 | DRENTHE |

| WEST-NEDERLAND | |
|----------------|---------------|
| NL31 | UTRECHT |
| NL32 | NOORD-HOLLAND |
| NL33 | ZUID-HOLLAND |
| NL34 | ZEELAND |

| OOST-NEDERLAND | |
|----------------|------------|
| NL21 | OVERIJSEL |
| NL22 | GELDERLAND |
| NL23 | FLEVOLAND |

| ZUID-NEDERLAND | |
|----------------|---------------|
| NL41 | NOORD-BRABANT |
| NL42 | LIMBURG (NL) |

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| AT | ÖSTERREICH |
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| OSTÖSTERREICH | |
|---------------|------------------|
| AT11 | BURGENLAND |
| AT12 | NIEDERÖSTERREICH |
| AT13 | WIEN |

| WESTÖSTERREICH | |
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| AT31 | OBERÖSTERREICH |
| AT32 | SALZBURG |
| AT33 | TIROL |
| AT34 | VORARLBERG |

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| SÜDÖSTERREICH | |
| AT21 | KÄRNTEN |
| AT22 | STEIERMARK |

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| PT | PORTUGAL |
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| CONTINENTE | |
| PT11 | NORTE |
| PT12 | CENTRO |
| PT13 | LISBOA E VALE DO TEJO |
| PT14 | ALENTEJO |
| PT15 | ALGARVE |

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| PT2 | AÇORES |
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| PT3 | MADEIRA |
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| FI | SUOMI / FINLAND |
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| MANNER-SUOMI | |
| FI12 | ETELÄ-SUOMI |
| FI13 | ITÄ-SUOMI |
| FI14 | VÄLI-SUOMI |

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| FI15 | POHJOIS-SUOMI |
| FI16 | UUSIMAA (SUURALUE) |

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| FI2 | ÅLAND |
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| SE | SVERIGE |
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| SE01 | STOCKHOLM |
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| SE06 | NORRA MELLANSVERIGE |
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| SE02 | ÖSTRA MELLANSVERIGE |
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| SE07 | MELLERSTA NORRLAND |
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| SE04 | SYDSVERIGE |
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| SE08 | ÖVRE NORRLAND |
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| SE0A | VÄSTSVRIGE |
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| SE09 | SMÅLAND MED ÖARNA |
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| UK | UNITED KINGDOM |
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| NORTH EAST | |
| UKC1 | TEES VALLEY AND DURHAM |
| UKC2 | NORTHUMBERLAND, TYNE AND WEAR |

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| SOUTH WEST(UK) | |
| UKK1 | GLOUCESTERSHIRE, WILTSHIRE AND NORTH SOMERSET |
| UKK2 | DORSET, SOMERSET |
| UKK3 | CORNWALL AND ISLES OF SCILLY |
| UKK4 | DEVON |

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| YORKSHIRE AND THE HUMBER | |
| UKE1 | EAST RIDING AND NORTH LINCOLNSHIRE |
| UKE2 | NORTH YORKSHIRE |
| UKE3 | SOUTH YORKSHIRE |
| UKE4 | WEST YORKSHIRE |

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| WEST MIDLANDS | |
| UKG1 | HEREFORD & WORCESTERSHIRE, WARWICKSHIRE |
| UKG2 | SHROPSHIRE, STAFFORDSHIRE |
| UKG3 | WEST MIDLANDS |

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| EAST MIDLANDS | |
| UKF1 | DERBYSHIRE, NOTTINGHAMSHIRE |
| UKF2 | LEICESTERSHIRE, RUTLAND, NORTHAMPTONSHIRE |
| UKF3 | LINCOLNSHIRE |

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| NORTH WEST (UK) | |
| UKD1 | CUMBRIA |
| UKD2 | CHESHIRE |
| UKD3 | GREATER MANCHESTER |
| UKD4 | LANCASHIRE |
| UKD5 | MERSEYSIDE |

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| EASTERN | |
| UKH1 | EAST ANGLIA |
| UKH2 | BEDFORDSHIRE AND HERTFORDSHIRE |
| UKH3 | ESSEX |

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| LONDON | |
| UKI1 | INNER LONDON |
| UKI2 | OUTER LONDON |

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| WALES | |
| UKL1 | WEST WALES AND THE VALLEYS |
| UKL2 | EAST WALES |

| SOUTH EAST (UK) | |
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| UKJ1 | BERKSHIRE,BUCKINGHAMSHIRE,OXFORDSHIRE |
| UKJ2 | SURREY, EAST AND WEST SUSSEX |
| UKJ3 | HAMPSHIRE, ISLE OF WIGHT |
| UK55 | GREATER LONDON |
| UKJ4 | KENT |
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| SCOTLAND | |
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| UKM1 | NORTH EASTERN SCOTLAND |
| UKM2 | EASTERN SCOTLAND |
| UKM3 | SOUTH WESTERN SCOTLAND |
| UKM4 | HIGHLANDS AND ISLANDS |

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| UKN | NORTHERN IRELAND |
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| IS | ISLAND |
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| LI | LIECHTENSTEIN |
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| NO | NORGE |
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| NO01 | OSLO OG AKERSHUS |
| NO02 | HEDMARK OG OPPLAND |
| NO03 | SØR-ØSTLANDET |
| NO04 | AGDER OG ROGALAND |

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| NO05 | VESTLANDET |
| NO06 | TRØNDELAG |
| NO07 | NORD-NORGE |

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| CZ | ČESKÁ REPUBLIKA |
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| CZ01 | PRAHA |
| CZ02 | STŘEDNI ČECHY |
| CZ05 | SEVEROVÝCHOD |
| CZ06 | JIHOVÝCHOD |

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| CZ03 | JIHOZÁPAD |
| CZ04 | SEVEROZÁPAD |
| CZ07 | STŘEDNI MORAVA |
| CZ08 | OSTRAVSKO |

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| EE | EESTI |
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| CY | KYPROS |
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| LV | LATVIJA |
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| LT | LIETUVA |
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| HU | MAGYARORSZÁG |
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| HU01 | KÖZÉP-MAGYARORSZÁ |
| HU02 | KÖZÉP-DUNÁNTÚL |

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| HU05 | ÉSZAK-MAGYARORSZÁG |
| HU06 | ÉSZAK-ALFÖLD |

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| HU03 | NYUGAT- DUNÁNTÚL |
| HU04 | DÉL- DUNÁNTÚL |

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| HU07 | DÉL-ALFÖLD |
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| MT | MALTA |
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| PL | POLSKA |
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| PL01 | DOLNOŚLASKIE |
| PL02 | KUJAWASKO-POMORSKIE |
| PL03 | LUBELSKIE |
| PL04 | LUBUSKIE |
| PL05 | ŁÓDZKIE |
| PL06 | MAŁOPOLSKIE |
| PL07 | MAZOWIECKIE |
| PL08 | OPÓLSKIE |

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| PL09 | PODKARPACKIE |
| PL0A | PODLASKIE |
| PL0B | POMORSKIE |
| PL0C | ŚLASKIE |
| PL0D | ŚWIĘTOKRZYSKIE |
| PL0E | WARMIŃSKO-MAZURSKIE |
| PL0F | WIELKOPOLSKIE |
| PL0G | ZACHODNIOPOMORSKIE |

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| SI | SLOVENIJA |
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| SK | SLOVENSKÁ REPUBLIKA |
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| SK01 | BRATISLAVSKÝ KRAJ |
| SK21 | TRNAVSKÝ KRAJ |
| SK22 | TRENČIANSKY KRAJ |
| SK23 | NITRIANSKY KRAJ |

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| SK31 | ŽILINSKÝ KRAJ |
| SK32 | BANSKOBYSTRICKÝ KRAJ |
| SK41 | PREŠOVSKÝ KRAJ |
| SK42 | KOŠICKÝ KRAJ |

Annex 2 : Financial Identification

See separate annex.