

**July 2025** 

## **European Master in Official Statistics**

# Permanently open call with annual cut-off dates for universities applying for the EMOS label

# **Guide for applicants**

This guide aims to facilitate the drafting and compiling of the application for the EMOS label by:

- describing the background of EMOS,
- outlining the roadmap of the call for applications,
- setting out the criteria to be met by the master's programme,
- explaining the assessment process,
- listing the documents to be submitted for the assessment.

## 1. European Master in Official Statistics (EMOS)

The European Master in Official Statistics (<u>EMOS</u>) was launched by Eurostat and the European Statistical System (<u>ESS</u>) in 2014 to connect producers of official statistics and academia at European level. EMOS is a label awarded by the European Statistical System Committee (<u>ESSC</u>) to master's programmes providing postgraduate education in the area of official statistics. It is a shared initiative by Eurostat, the ESS and the European System of Central Banks (<u>ESCB</u>).

The mission of the European Master in Official Statistics (EMOS) is to advance statistical education including the field of official statistics, foster collaboration among producers of official statistics and universities across Europe, enhance employability of graduates in the field of official statistics and promote attractiveness of statistical offices as employers.

EMOS is a label awarded by the ESSC for five years, renewable upon continued fulfilment of EMOS requirements. In the EMOS governance structure, the ESSC is the highest decision-making body awarding the EMOS label to master's programmes and appointing members to the EMOS Board. The Board assists the ESSC in developing the programme, especially in awarding the EMOS label and in quality monitoring of the EMOS master's programmes. The EMOS Board is chaired by Eurostat and consists of 14 members representing both universities and producers of official statistics.

The <u>EMOS network</u> is active in more than 15 European countries and comprises more than 30 universities and their collaboration partners in national statistical offices (NSIs), central banks (CBs), other national authorities (ONAs)¹, international organisations (IOs) and other partners organisations². The EMOS curriculum builds on existing and nationally accredited master's programmes which, in line with the <u>EMOS learning outcomes</u> (Annex 1), familiarise students with the system of official statistics, production models and methods, themes in official statistics, statistical methods and data dissemination. EMOS-labelled master's programmes actively collaborate with NSIs and partner organisations dealing with statistics and data for relevant master's thesis topic and internships in the sphere of official statistics. Partners in the EMOS network benefit from each other's experiences and can develop deeper cooperation, e.g., joint degrees, teaching collaborations or student exchange programmes. In addition, EMOS activities such as paid cross-border internships, sponsored conference attendances, webinars, workshops, and the bi-annual Master's Thesis Competition offer an opportunity for the students to acquire a relevant mix of skills and knowledge for tomorrow's official statisticians.

<sup>&</sup>lt;sup>1</sup> List of National Statistical Institutes (NSI) and Other National Authorities (ONA)" based on Article 5(2) of Regulation (EC) No 223/2009 amended by Regulation (EU) 2015/759.

<sup>&</sup>lt;sup>2</sup> 'Partner organisation' is any other organisation producing, managing or analysing statistics and data (e.g. research organisations, universities, line ministries, private companies), as long as the collaboration (thesis topic, internship) is relevant to official statistics and based on the EMOS learning outcomes.

## 2. Emphasis of EMOS master's programmes to address future challenges

This call invites universities interested in official statistics to join the EMOS network. Applicants can build a new and accredited EMOS master's programme or add the coursework covering the EMOS learning outcomes to existing relevant master's programmes.

EMOS master's programmes need to address the rapidly changing landscape from design-based production of official statistics to integrating different kinds of data sources, including new data sources. Students will need a blend of different skills to cope with multisource statistics such as classical statistical surveys, administrative data, privately held data, along with associated new statistical production methods that make more frequent use of model-based and algorithm-based estimation techniques. Moreover, future statisticians will need to understand the institutional environment, statistical processes, dimensions of the quality of the statistical outputs with special emphasis on the dissemination aspects, not only in their national contexts but at European level. Communicating statistical products is evolving with new IT solutions and covers statistical literacy of the entire society, thus requiring strong communication capabilities. EMOS-labelled programmes should address these future challenges and adapt their pedagogical approach accordingly in order to offer a stimulating learning experience.

## 3. Roadmap

| Year t                     | Permanent open call for applications is published on the EMOS website  |
|----------------------------|--|
| 31 December<br>year t      | Cut-off date for submissions   |
| January<br>year t+1        | <ul> <li>EMOS Secretariat:</li> <li>checks admissibility criteria and requests missing documents</li> <li>proceeds with clarification requests on behalf of the EMOS Board</li> <li>recomposes evaluation teams in case of conflict of interest</li> </ul> |
| January<br>year t+1        | <ul> <li>EMOS Board assesses the following two sets of criteria:</li> <li>Eligibility criteria — formal criteria (yes/no)</li> <li>Selection criteria — fulfilling the EMOS requirements</li> </ul>  |
| February-March<br>year t+1 | EMOS Board finalises the assessment and proposes a short-list of programmes to the ESSC for award of the EMOS label  |
| May<br>year t+1            | Decision of the ESSC on the EMOS label award Informing the applicants  |

## 4. Criteria for awarding the EMOS label

## 4.1. Admissibility criteria

The admissibility criteria are formal features of the application. The documents may be submitted in a national language; however, in this case, a non-certified translation into English **must** be provided. Personal data will be collected, processed and published in accordance with the provisions of Regulation (EU) No (EU) 2018/1725.

A list of the required documents and annexes to the EMOS application is provided in Annex 2 of this Guide. The **application form** is available on the <u>EMOS website</u>.

The complete application with annexes is to be sent to <u>ESTAT-EMOS@ec.europa.eu</u> by 31 **December of the current year** at the latest by 23:59 (Central European Time - CET) with the subject 'Reply to EMOS Call for applications + name of the university'.

## 4.2. Eligibility criteria

The eligibility criteria are:

### Eligibility criterion 1:

- The programme can be either an accredited master's programme or a specialisation within an accredited master's programme/module, i.e. a specific track or a set of courses that are compulsory only for students that are willing to get an EMOS-labelled master's degree.
- The EMOS label can be awarded, under the conditions of the "Single Market Programme"<sup>3</sup>, to universities in a EU Member State, in a EU candidate or potential candidate country, in an acceding country, in a country which is a member of both the European Free Trade Association and the European Economic Area, in a European Neighbourhood Policy country, or, exceptionally, in other third countries based on specific arrangements with Eurostat<sup>4</sup>.

## **Eligibility criterion 2:**

The master's programme is in line with the Bologna process and the European Credit Transfer and Accumulation System (ECTS)<sup>5</sup>

If the application does not meet the eligibility requirements, it will not be assessed any further and feedback will be provided only on the aspects that led to it being rejected.

<sup>3</sup> Regulation (EU) 2021/690 of the European Parliament and of the Council of 28 April 2021 establishing a programme for the internal market, competitiveness of enterprises, including small and medium-sized enterprises, the area of plants, animals, food and feed, and European statistics.

<sup>&</sup>lt;sup>4</sup> In this case, the university located in a third country agrees to not be part of any decision-making entity in the EMOS programme and bears the costs corresponding to their participation in the EMOS programme.

<sup>&</sup>lt;sup>5</sup> If this is not the case, the university must demonstrate that the programme's academic credit system corresponds to the ECTS.

#### 4.3. Selection criteria

The selection criteria are:

Selection criterion 1: The master's programme is organised in line with the EMOS learning outcomes, includes a master's thesis or a substitute and an internship in the area of official statistics or a substitute.

**Master's thesis**: the programme includes a master's thesis. In formally justified cases, the master's thesis can be substituted by an equivalent scientific report on a topic related to official statistics. The development of the master's thesis/scientific report must be supported by a national statistical institute (NSI), a central bank (CB), an other national authority (ONA), an international organisation (IO) or any other partner organisation producing, managing or analysing statistics and data (e.g., research organisations, universities, line ministries, private companies), as long as the thesis topic is relevant to official statistics and based on the EMOS learning outcomes.

**Internships:** The programme includes an internship of a minimum duration of 250 hours or at least 10 ECTS in an NSI, a statistical department of a CB, ONA, IO or other partner organisation and is steered and managed by the university as well as the respective NSI, CB, ONA, IO or any other partner organisation producing, managing or analysing statistics and data (e.g., research organisations, universities, line ministries, private companies), as long as the internship focuses on work that is relevant to official statistics.

Ideally, interns should be based on-site within the host organisation. However, this policy is flexible if an alternative arrangement is agreed between the host organisation and the university, and meets the needs of the project. In formally justified cases, the internship can be substituted by practical experience for example within a joint project or as an employee of an NCB, ONA, IO or other partner organization. The substitute has to include practical experience with an equivalent workload in terms of duration.

## Selection criterion 2: Written agreement of cooperation with the respective NSI, CB, ONA or IO

The university has set up a written agreement of cooperation with the respective NSI, CB, ONA or IO with regard to internships and other support such as cooperation in teaching and master's thesis.

## Selection criterion 3: Workload: The credits allocated to the master's programme amount to at least 90 ECTS

The total credits devoted to the EMOS master's programme amount to at least 90 ECTS which must include:

- At least 50 ECTS allocated to the courses aimed at reaching the EMOS learning outcomes, whereby
  - the majority of the 6 subpoints of learning outcome A) Knowledge needs to be covered
  - and at least one subpoint of each of the three learning outcomes A) Knowledge, B)
     Skills and C) Competencies needs to be covered

- At least 30 ECTS allocated to a combination of master's thesis of at least 15 ECTS and internship of at least 10 ECTS or of a minimum duration of 250 hours
- In case of awarding only a minimum number of ECTS to the master's thesis and internship or in case the specific rules in place do not allow ECTS to be awarded, at least 50 per cent of the master's programme workload, but not less than one year of classes, is allocated to the courses aimed at reaching the EMOS learning outcomes.

### Selection criterion 4: Start of the programme

The master's programme should already be operational or start no later than one year after the application is received by the EMOS Secretariat.

## Selection criterion 5: Adequate teaching capacity and qualifications

The university holds adequate teaching capacity and qualifications for the master's programme. The teacher's resume must demonstrate teaching experience and expertise in a field related to the EMOS learning outcomes. Either by working in an NSI/ONA/CB/IO in a specific area or through research in that area.

#### 4.4. Additional assets

Though not taken into account in the selection criteria, an effective quality assurance system and cooperation with higher education institutions at an international level or participation in European networks are considered as additional assets. The information will give an insight into ongoing projects and the quality assessment mechanism that has been put in place. This information will also feed into further development work of the EMOS network.

## 5. Assessment

#### 5.1. Scores

The EMOS Board will assess the eligibility and the selection criteria on the basis of the information provided in the application forms and the annexes. Each criterion will be scored on a scale from 0 to 3 (half point scores may be given):

| Score          | Description  |
|----------------|--|
| 0 Insufficient | proposal fails to address the criterion or cannot be assessed due to missing or incomplete information |
| 1 Fair         | proposal broadly addresses the criterion, but there are significant weaknesses                         |
| 2 Good         | proposal addresses the criterion well, but some shortcomings are present                               |
| 3 Excellent    | proposal successfully addresses all relevant aspects of the criterion, any shortcomings are minor      |

An application fulfils the selection criteria if it receives at least "Good" for each criterion.

## 5.2. Assessment process

The assessment team consists of the EMOS Board and the EMOS Secretariat at Eurostat. The EMOS Board must assess the applications objectively and independently. All members of the EMOS Board must sign a declaration of absence of conflict of interest and of confidentiality. The deliberations of the EMOS Board shall be confidential.

In case the organisation with which an EMOS Board member is affiliated is involved in an application for the EMOS label, the respective member will not be involved in the assessment and will be requested to leave the meeting during the deliberations regarding that particular application.

The EMOS Secretariat and Board reserve the right to request clarifications from the applicants at any point in time of the process.

## 6. Annual reports and EMOS label renewal

## 6.1. Reporting changes to the EMOS Board

Once the EMOS label is awarded by the ESSC, the EMOS Board should routinely be consulted about any changes to the labelled programme. This obligation is fulfilled by completing the relevant section in the annual reporting questionnaire (see 6.2.). The Board evaluates once a year whether the changes are in line with the EMOS Guide and EMOS learning outcomes requirements.

An email with the proposed changes can be sent to the EMOS Secretariat at <u>ESTAT-EMOS@ec.europa.eu</u> throughout the year. The evaluation of proposed changes can, in exceptional cases, be done outside of the annual evaluation procedure.

In case of major revisions which may cause deviations of the EMOS-labelled master's programme from the EMOS Guide and EMOS learning outcomes, the EMOS label renewal process will have to be carried out once again before the label expires.

## 6.2. Annual reporting

Each year, EMOS-labelled master's programmes fill in an annual reporting questionnaire prepared by the EMOS Secretariat. The questionnaire collects information on enrolled students and successful graduates of the programme, evaluation of EMOS activities, the overall assessment of the academic year, completed internships, master's theses and research topics. The annual questionnaire is also a tool for the systematic collection of information on changes introduced to the EMOS-labelled programmes during the reporting year.

The EMOS Secretariat prepares an analysis of the responses and an annual report, which is shared with the EMOS Board.

## 6.3. Relabelling process

The EMOS label is awarded for five years. To renew their EMOS label, master's programmes are requested to submit information on their motivation, plans to develop their programmes, teaching and coursework addressing the EMOS learning outcomes. This information is collected through a dedicated section of the annual reporting questionnaire. The EMOS Board members examine the received feedback and assess whether the proposed programme continues to fulfil the requirements for the award of the EMOS label for the next 5-year period.



## **Learning Outcomes of the EMOS programmes**

### I. Programme Profile

EMOS aims at providing students with an advanced training in the specific themes of statistics in general and official statistics in particular, supported by the complementary quantitative and statistical tools offered by the hosting university. The main objective of EMOS is to enhance the abilities of students to understand and to be able to analyse European official data at different levels: quality, production process, dissemination, and analysis in a national, European and international context.

This range of skills represents the ideal foundation for the development of professionals able to interpret the fast-changing official data production system of the 21st century. This is why it is important that the EMOS learning outcomes are included in a degree designed for students aiming at economical/social/statistical knowledge-intensive careers. The learning outcomes guarantee a solid foundation for those willing to pursue a career in the field of data collection on societal and economic phenomena or other professional activities that require a strong command of the methods and processes for the development, production and dissemination as well as use of official statistics.

#### **II. Learning Outcomes**

#### A) Knowledge

- Graduates understand the pivotal role of official statistics in data-driven policy decisionmaking, realising their profound impact on shaping policies and strategies. They are familiar with the main output domains of official statistics: National Accounts, Economic Indicators, Agriculture and Fisheries, Labour, Households, Census and Demographics, Environment, Energy, Transport and Mobility.
- Graduates are well-versed in the function, organisation and role of National Statistical Institutes and other official data producers such as Eurostat, ECB, IMF, ILO, BIS, UN, OECD, and the World Bank and their legal bases including principles of data confidentiality they adhere to.
- 3. Graduates have advanced knowledge about the European Statistics Code of Practice principles for the ESS and the Public commitment on European Statistics by the ESCB.
- 4. Graduates understand issues regarding comparability, definitions, standardization and classification, and the main quality dimensions in official statistics.
- 5. Graduates consider the main design principles for official statistics production, such as the statistical value chain, the GSBPM, data and metadata management, and monitoring quality dimensions.

- 6. Graduates are proficient in a range of statistical methods for official statistics, this includes:
  - methods for data collection,
  - methods for data processing e.g. data validation, data cleaning, data integration, outlier treatment, information extraction, unstructured data treatment,
  - methods for dealing with missing or sparse data and measurement errors, e.g. non-response correction, small area estimation, imputation, statistical matching,
  - time series analysis, seasonal adjustment, index theory, multivariate statistics, econometrics, spatial statistics,
  - and methods for confidentiality e.g. disclosure control for tabular data and microdata, privacy-enhancing techniques.

## B) Skills

- 1. Graduates can produce statistical data using various data sources.
- Graduates are capable of designing and managing a small production system according to architectural design principles that guarantees transparency, reproducibility and accountability of results.
- 3. Graduates possess strong programming skills for complex data processing tasks using tools and workflows that promote reproducibility, collaboration and transparency.
- 4. Graduates can use the most important tools to disseminate data and are able to present metadata in a clear, intelligible and comprehensible way. Graduates can present orally and in writing data and data insights effectively to diverse audiences and are able to challenge interpretation of data analysis.
- 5. Graduates have the skills to apply a wide range of statistical methods for data collection, processing, and analysis in practical scenarios and are able to implement them using a recent programming tool or statistical software (e.g. current tools such as R or Python).
- 6. Graduates are capable of understanding and assessing the methodological issues related to data collection, processing, estimation and dissemination, to make an informed decision on methodology, and to apply the methodology programmatically in practical circumstances.
- 7. Graduates are capable of designing or further developing of statistical methods to solve specific challenges.

## C) Competencies

- 1. Graduates apply the European Statistics Code of Practice principles and the Public Commitment in data production and dissemination.
- 2. Graduates can integrate knowledge from different scientific disciplines to produce and analyse data.
- 3. Graduates can place their work as a producer or consumer of an official statistic in the legal and institutional context of official statistics, both nationally and internationally. Graduates can convey to policy makers, scientists and the public, the relevance and importance of official statistics and the main features of its legal and institutional context.
- 4. Graduates will be able to use state-of-the-art statistical methods, including techniques of data science and artificial intelligence, to improve data analysis, ensure reproducibility, and collaborate effectively in interdisciplinary teams.
- 5. Graduates have an advanced understanding of methodological issues across various statistical domains. They are familiar with the relevance and issues regarding comparability, standardization, classification, definitions of variables, of population and of population units as well as the main quality dimensions.

# List of required documents and annexes to the EMOS application

- For documents in a national language other than English, a translation in English (non-certified) must be provided.
- Further information regarding the required documents is available in the application form. Therein, all annexes are to be listed in the respective dedicated tables.
- Please compress voluminous files as .zip files.

## Name of document/annex/proof

EMOS application form available on the EMOS website.

## Eligibility criterion 1

Proof that the current programme is authorised by the relevant authorities in an eligible country: Copy of the authentic curriculum document in the original language and its translation in English.

## Eligibility criterion 2

Proof that the programme is in line with the Bologna process and the European Credit Transfer and Accumulation System (ECTS) or equivalent credit system.

Note: if the received accreditation implies the compliance with the Bologna Process, please explain this in a separate letter with reference to national legislation.

#### Selection criterion 2

Proof of established collaboration with the respective NSI or other statistical authority: Copy of the written agreement of cooperation with the respective NSI, CB, ONA or IO with regard to internships and other support such as cooperation in teaching and master's thesis

Note: The document should be signed by the highest possible hierarchy (equivalent to Director General or Director General Statistics).

### Selection criterion 5

CVs of course leaders

Note: Applications must include CVs not older than one year of each responsible course leader, explaining their experience relevant to official statistics. CVs of the proposed lecturers may be requested at a later stage on a case-by-case basis, if necessary. The course leaders'/lecturers' resumes must demonstrate teaching experience and expertise in a field related to the EMOS learning outcomes. Either by working in an NSI/ONA/CB/IO in a specific area or through research in that area.

## Assets - Quality assurance

Document certifying that the master's programme is regularly monitored by an effective quality assurance system

## Assets - Inter-institutional cooperation

Document certifying that the master's programme has established cooperation with higher education institutions at the European level or participates in international networks.