



**University of Crete**  
Department of Mathematics and Applied  
Mathematics  
Department of Computer Science



**Foundation for Research and Technology -  
Hellas (FORTH)**  
Institute of Applied & Computational  
Mathematics (IACM)  
Institute of Computer Science (ICS)

## Bylaws of the Inter-Institutional Postgraduate Program

### *Data Analysis & Machine-Statistical Learning (DAMSL)*

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<https://mscs.uoc.gr/damsl/>

**2025**

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## **Article 1 / Subject - Goals**

The Departments of Mathematics and Applied Mathematics and Computer Science of the University of Crete, together with the Institutes of Applied & Computational Mathematics (IACM) and Computer Science (ICS) of the Foundation for Research and Technology – Hellas (FORTH), organize and operate the Inter-Institutional Postgraduate Program (IIPP) “Data Analysis and Machine-Statistical Learning” (hereafter IIPP), which is governed by these regulations and by the provisions of the Greek Law 4957/2022.

The purpose of the Program is to provide specialization in the interdisciplinary field of Data Analysis, with an emphasis on Machine Learning and related Statistical Methods. The IIPP is an interdisciplinary curriculum designed to deliver core scientific and technological knowledge, hands-on training, and the transfer of specialized skills to graduates who wish to work in data analysis and statistical-machine learning in the private or public sector or in comparable academic settings.

The official language of the Program is English. The minimum duration of studies is three (3) academic semesters.

## **Article 2 / Program Governance**

For the organization and operation of the Inter-Institutional Postgraduate Program (IIPP), the following bodies are responsible:

- **Program Director**
- **Program Committee (PC)**
- **Coordinating Committee (CoC)**

### **Program Director**

The Director is appointed by decision of the Program Committee for a two-year term, renewable without limitation. The Director presides over and convenes the PC and carries out the duties prescribed by law and by the Postgraduate Studies Regulations. The Director also submits proposals to the competent bodies of the participating institutions on any matter affecting the effective operation of the Program.

### **Program Committee (PC)**

The PC has the status of a Department Assembly, and its competencies are defined in paragraph 2 of Article 82 of Law 4957/2022. It is constituted in accordance with

paragraphs 3, 5, and 6 of Article 81 of the same law. The PC comprises seven members of the Program, selected for two-year terms—either by the Assemblies of the participating Departments or nominated by the Institutes involved—pursuant to the Special Cooperation Protocol.

### **Coordinating Committee (CoC)**

The CoC consists of the Program Director plus four additional Program members whose expertise is directly related to the IIPP. It is charged—under paragraph 3 of Article 82 of Law 4957/2022—with monitoring and coordinating the day-to-day functioning of the Program. Its members are appointed by the collaborating Departments and Institutes as stipulated in the Special Cooperation Protocol.

## **Article 3 / Admission of Students**

### **Admission**

Graduates of domestic universities or of equivalent, officially recognized institutions abroad who wish to obtain a Master’s Diploma of Specialization in the Program’s field are eligible to apply. The IIPP is open to both Greek and international applicants.

### **Equal Opportunities**

The Program is committed to providing equal opportunities in education and training and ensures non-discrimination in admission and completion of studies on the basis of gender, color, nationality, religion, or personal status, in accordance with Greek law.

Students with disabilities and/or special educational needs are welcome. All buildings of the participating institutions are accessible to persons with disabilities, and lecture halls include spaces suitable for wheelchair users.

### **Selection Procedure – Candidate Evaluation**

Each year, during the spring semester of the current academic year, the Program Committee (PC) publishes a **Call for Applications** on:

- the Program’s website (<https://mscs.uoc.gr/damsl/>)
- the websites of the participating departments and institutes
- the websites of the collaborating universities and research centers

The Call details the admission criteria, evaluation methods, application deadlines, and required documentation.

Applications and all supporting documents must be submitted **online only** via <https://postgrad.cict.uoc.gr>. Applicants must create an account, complete and finalize their application, and upload their documents before the deadline. Letters of

recommendation may be sent directly by referees to the Program Secretariat at [damsl@math.uoc.gr](mailto:damsl@math.uoc.gr).

### **Selection Criteria**

Indicative criteria include:

- Bachelor's degree grade (and, if applicable, grade of a second degree)
- Coursework relevant to the Program's subject area
- Any diploma thesis submitted by the candidate
- Publications in peer-reviewed international journals and/or participation in conferences
- Professional and/or research experience related to the Program
- Awards, honors, or patents awarded to the candidate
- Performance on any written evaluation tests
- Candidate interview
- Letters of recommendation

Applications must be accompanied by the documents specified in the Call for Applications. An Evaluation Committee—appointed each year by the PC—reviews all submissions. In its assessment, the Committee considers the applicant's academic record (grades, coursework, any projects), letters of recommendation, English-language proficiency, and any additional criteria it may set (e.g., interviews or written exams).

Final results are communicated by email, in compliance with data-protection regulations. Successful candidates are then invited to enroll within the prescribed deadline. The PC may also establish additional selection criteria, which will be announced in the Call for Applications.

### **Article 4 / Duration of Study, Partial Study, and Suspension of Studies**

The minimum period of study required for the award of the Master's Diploma of Specialization is three (3) academic semesters.

Part-time enrollment is available for employed students—or, in exceptional cases, for those not in employment—subject to decision by the Program Committee (PC) and upon the candidate's written request; the maximum period in this mode is six (6) academic semesters.

An extension and/or suspension of studies may be granted by decision of the PC, upon the student's request. Extensions may not exceed two (2) academic semesters for full-time students, or one (1) academic semester for part-time students.

## Article 5 / Curriculum

Teaching for all Program courses is conducted in English.

To be awarded the Master's Diploma of Specialization (MSc), a student must earn at least **90 ECTS credits**, of which:

1. **70 ECTS** from successful completion of courses, special-lecture series, and associated assignments, and
2. **20 ECTS** from completion of the Master's thesis (Master project).

Completion of the Master's thesis is mandatory. Of the 70 ECTS earned through coursework:

- **30 ECTS** must come from **Core Courses (CC)**
- **40 ECTS** must come from the **Elective Course List (EC)**

As a general rule:

- Each Core Course is **10 ECTS**.
- Each Elective Course is **5 ECTS** or **10 ECTS**.
- Up to **10 ECTS** may be credited via advanced undergraduate courses (from the School of Sciences and Technology) that fill any gaps in background knowledge essential for the Program (e.g., Probability, Numerical Algorithms, Data Structures).

On matriculation, students are notified which, if any, preparatory courses they must attend. Core Courses are compulsory for all students.

### Indicative Curriculum

- **1st Semester (20–30 ECTS)**
  - Data Structures (5 ECTS) – Preparatory
  - Numerical Algorithms (5 ECTS) – Preparatory
  - Probability (5 ECTS) – Preparatory
  - Introduction to Data Science (10 ECTS) – Core
  - Introduction to Machine Learning (10 ECTS) – Core
- **2nd Semester (30 ECTS)**
  - Mathematical and Computational Statistics (10 ECTS) – Core
  - Two Elective Courses (20 ECTS)
- **3rd Semester (30 ECTS)**

- Master's Thesis (20 ECTS)
- One–Two Elective Courses (10 ECTS)

An indicative list of specific courses appears in Appendix I.

**Examinations** are administered by each course instructor in accordance with current regulations. The passing grade range is **5–10**; anything below **5** is deemed unsatisfactory.

### **Registration by Students from Other UoC Graduate Programs**

Students enrolled in other postgraduate programs at the University of Crete may register for IIPP courses under the following conditions:

#### **1. Exclusively IIPP-Offered Courses**

- The student must pay course tuition(CT) calculated as:
- $\text{Course Tuition} = (\text{Course ECTS}) \times (\text{Total Program Tuition} \div 90)$
- Round **CT** upward to the nearest ten.
- This applies to:
  - Preparatory Courses (DAMSL-090, 091, 092)
  - Core Courses (DAMSL-100, 102)
  - Any other course designated by the Program Committee at the start of each semester

#### **2. Courses Shared with Other UoC Graduate Programs**

- Students must contact the offering program directly for that course's registration terms and conditions.

#### **3. Enrollment Cap**

- The total number of “external” students (cases 1 & 2) may not exceed **10**.
- If demand exceeds this cap, the Program Committee will set the final number.

### **Article 6 / Recognition of Courses**

There is the option—upon the student's request to the Program Committee (PC)—to recognize certain postgraduate courses (assigning them their equivalent ECTS weight) that the student has previously taken at a higher-education institution during their undergraduate or postgraduate studies, in order to satisfy IIPP requirements.

For such recognitions, the fundamental rule is that a course may not be credited twice—that is, the same course cannot fulfill requirements for more than one degree (undergraduate or postgraduate). More specifically, to be eligible for recognition, a course must be **additional** to the requirements for the award of the degree (undergraduate or postgraduate) under which it was originally taken.

The total number of credits that may be recognized in this way cannot exceed **20 ECTS**. Applications for course recognition must be submitted within the **first semester** of enrollment.

### **Article 7 / Academic Advisor, Supervisor**

Each candidate admitted to the Program is assigned, upon first enrollment, an academic advisor—who is a Program faculty member—by the Program Committee (PC). The academic advisor's role is to help the candidate adjust to the IIPP, select courses, and address any academic issues that arise during their postgraduate studies.

The student must choose a Program member as their thesis Supervisor—after consulting with that faculty member—by the start of course registration for the third (3rd) or fifth (5th) semester of the Program, and must inform the PC in writing. Once the PC formally appoints the thesis Supervisor, that Supervisor also takes on the role of academic advisor from then on.

### **Article 8 / The Master's Thesis**

The preparation of a postgraduate (master's) thesis takes place within the thematic area of the Program. The thesis is carried out under the supervision and guidance of the Supervisor and is examined by the Examination Committee. The language in which the thesis must be written is English. It may also be accompanied by a summary in Greek.

#### **Submission and Committee Formation**

The candidate submits an application to the Postgraduate Studies Committee (PSC), stating the proposed title of the thesis, the proposed supervisor, and an abstract of the proposed work. For the evaluation and approval of the thesis, the PSC appoints a three-member Examination Committee upon recommendation of the Supervisor. The Supervisor is one of the three members, and all members must hold the legal qualifications required by current regulations. At least one member of the three-member committee must be a faculty member of one of the University of Crete departments that co-organize the Program, and must work in an area related to the thesis subject. The third member may be either (a) another Program faculty member, (b) a faculty member of another Greek or foreign higher-education institution, or (c) a researcher at a recognized Greek or foreign research institute.

#### **Delivery of the Thesis Text**

The candidate must deliver the full text of the thesis to all members of the Examination Committee at least 15 days before the scheduled date of the defense.

### **Oral Defense Procedure**

The oral defense is public and is coordinated by the Supervisor. It proceeds as follows:

- The candidate presents the thesis for 30–40 minutes.
- Committee members pose questions.
- Members of the audience may then ask questions.
- The audience withdraws, and Committee members may ask further questions in private.
- The candidate leaves the room while the Committee deliberates and assigns a grade on the standard 0–10 scale.
- The Committee announces the result to the candidate.
- The Committee provides any content-related comments; the candidate must incorporate these into the final version. Depending on the scope of the revisions, the Committee may request to review the revised text or may authorize the Supervisor to give final approval.
- Once satisfied, the Committee members sign the official evaluation report, which is drafted by the Supervisor.

### **Final Submission**

After approval, the candidate must submit two signed hard copies of the thesis—one to the Program’s postgraduate-studies office and one to the University Library. If the work was supported by a scholarship, a third copy must be filed with the Department’s postgraduate-studies office for delivery to the funding body. The final text must also be submitted electronically to the Program’s postgraduate-studies office. All theses are then catalogued in the University of Crete’s Digital Library and posted on the Program’s website.

### **Plagiarism**

Plagiarism is considered a serious academic offense and may carry criminal penalties. It is defined as copying another person’s published work or parts thereof, or using someone else’s work without proper bibliographic citation, in violation of scientific ethics. Plagiarism may be detected by specialized software. In cases of detected plagiarism or other breaches of intellectual-property ethics, the competent authorities will take action in accordance with applicable law and the University of Crete’s Internal Regulations.

### **Article 9 / Internship**

#### **Optional Internship (Internship Training, IT)**

An optional internship is available with public or private organizations, as well as under the Erasmus program. A student who wishes to undertake an internship must submit a request to the Program Committee (PC), specifying the host organization and the internship’s subject matter, which must be relevant to the IIPP’s field.



- The internship carries **10 ECTS, in addition** to the 90 ECTS required for the Master's degree.
- Internships may only begin **after successful completion of the first (1st) academic semester**.
- Upon completion, the student must submit an **internship report** to the PC.
- The internship's **maximum duration** is one (1) academic semester.

## **Article 10 / Obligations and Rights of Graduate Students**

Postgraduate students enjoy the rights and bear the corresponding obligations derived from applicable law, the Internal Regulations of the University of Crete, the provisions of the Institution's Postgraduate Programs Regulation, and the decisions of the competent university administrative bodies.

## **Article 11 / Faculty**

The teaching staff for the program is appointed by the Program Committee, according to the categories of instructors specified in Article 83 of Law 4957/2022. Faculty members come from:

- The Department of Mathematics and Applied Mathematics at the University of Crete
- The Department of Computer Science at the University of Crete
- The Institute of Applied & Computational Mathematics(IACM) at FORTH
- The Institute of Computer Science(ICS) at FORTH
- Professors and researchers from collaborating institutions, both domestic and international.

## **Article 12 / Tuition Fees**

### **Tuition Fees**

The IIPP charges tuition fees, the amount of which differs for students from EEA countries and for those from non-EEA countries. Students should contact the Program Secretariat for current fee levels and payment procedures. Tuition fees may be amended by decision of the Program Committee (PC).

All revenues of the IIPP are managed by the Special Account for Research Funds (ELKE) of the University of Crete. Operational expenses include, but are not limited to, support staff, educational materials and consumables for teaching labs, publicity costs, travel expenses for students and instructors, and instructional fees.

Tuition is paid in **three (3) approximately equal installments** at the start of each academic semester. For part-time students, fees are paid in **six (6) approximately equal installments**, one at the start of each semester. Each interim installment is rounded up to the nearest ten euros, with the final installment covering the remaining balance.

Payments are made to a bank account designated by the University of Crete's administrative support office. In the event of a student's permanent withdrawal from the IIPP, paid tuition fees are non-refundable; the student will receive a certificate listing all successfully completed courses.

If a student applies for suspension of studies, they must have settled all financial obligations at the time of application; otherwise, the IIPP is required to deregister them.

Students must clear all outstanding financial obligations before being issued a certificate of completion or having their Master's Diploma conferred. No additional tuition is charged for any approved extension of enrollment; extensions must be granted upon the student's request and with PC approval.

### **Article 13 / Scholarships**

The Postgraduate Program may award its students **merit-based scholarships** and **prizes**, charged to its own budget, on the basis of academic performance/excellence and the student's individual or family financial circumstances, as well as **reciprocal scholarships**.

The **number** of scholarships and prizes, the **criteria** for their award, and any other related matters are determined by the Program Committee. In all cases, the total number awarded shall **not exceed 30% of admitted students per year**.

Scholarships take the form of **tuition-fee waivers**. Additionally, the Program offers the possibility of further tuition-fee waivers in accordance with current legislation (Greek Law 4899/2022).

### **Article 14 / Program Evaluation**

The Program's **annual internal evaluation** is conducted in collaboration with the University of Crete's Internal Quality Assurance Unit (MODIP), as part of the internal review of the academic unit to which the Program belongs and in accordance with the procedures of the Institution's Internal Quality Assurance System.

The Program's **external evaluation** is carried out, again in cooperation with MODIP, as part of its accreditation process under the procedure prescribed by the Hellenic Authority for Higher Education (HAHE).

### **Article 15 / Ethics**

Students of the IIPP must adhere to the University of Crete's Code of Ethics. All rules governing scientific research and the publication of research papers are those set forth in the University of Crete's Postgraduate Studies Regulations and in applicable law.

### **Article 16 / Awarded Title**

The postgraduate degree is awarded by the IIPP and is titled **Master's Diploma of Studies in "Data Science and Machine-Statistical Learning"**.

The Diploma is accompanied by a Diploma Supplement.

The graduation ceremony for the Master's Diploma takes place during the scheduled commencement exercises for Bachelor's, Master's, and Doctoral degrees of the Department of Mathematics and Applied Mathematics at the University of Crete.

### **Appendix I / Indicative List of Courses**

The following is an indicative list of the courses offered within the DAMSL program. This list may change by decision of the Program Committee.

<b>Course Title</b>	<b>Type</b>	<b>ECTS</b>
Data Structures	Prep. Course	5
Numerical Algorithms	Prep. Course	5
Probability	Prep. Course	5
Introduction to Data Science	Core Course	10
Introduction to Machine Learning	Core Course	10
Mathematical & Computational Statistics	Core Course	10
Deep Learning	Elective	10
Optimization	Elective	10
Machine Vision	Elective	10
Signal Analysis	Elective	10
Numerical Analysis	Elective	10
Numerical Approximation of Differential Equations	Elective	10
Information Retrieval	Elective	10
Development of Scientific Software	Elective	10
Computer-Aided Geometric Design	Elective	10
Geometric Algorithms	Elective	10

<b>Course Title</b>	<b>Type</b>	<b>ECTS</b>
Design and Analysis of Algorithms	Elective	10
Information Theory	Elective	10
Modeling in the Physical Sciences	Elective	10
Big Data Analytics	Elective	10
Time Series Analysis	Elective	10
Topics in Statistics	Elective	5 or 10
Topics in Data Science	Elective	5 or 10
Topics in Machine Learning	Elective	5 or 10