Master RADMEP

ERASMUS MUNDUS JOINT MASTER DEGREE

RADMEP – RADIATION AND ITS EFFECTS ON MICROELECTRONICS AND PHOTONICS TECHNOLOGIES

STUDENT AGREEMENT

Governing the roles and obligations of the student and the Coordinating Institution University Jean Monnet and the other Full Partners, duly represented by the Coordinating Institution by virtue of the mandates included in the Consortium Agreement during the period of Programme intake 2022-2024

STUDENT ID

FAMILY NAME *[as it appears on student passport]*	[redacted]
GIVEN NAME/S *[as it appears on student passport]*	[redacted]
PASSPORT #	[redacted]
FULL PERMANENT ADDRESS *[address of the student in home country]*	[redacted]
EMAIL *[personal email]*	[redacted]
COUNTRY OF CITIZENSHIP *[citizenship chosen during application in case the student hold dual citizenship]*	[redacted]
STATUS	Programme country
DATE OF BIRTH	[redacted]

SCHOLARSHIP

E+ JMD SCHOLARSHIP HOLDER	☒
CONSORTIUM SCHOLARSHIP HOLDER	
SELF-FINANCED	

STUDENT AGREEMENT

2022-2024RADMEPXX

With the support of the Erasmus+ Programme of the European Union

UNIVERSITÉ JEAN MONNET SAINT-ÉTIENNE

JYVÄSKYLÄN YLIOPISTO UNIVERSITY OF JYVÄSKYLÄ

KU LEUVEN

UNIVERSITÉ DE MONTPELLIER

CONTENTS

By & between

University Jean Monnet Saint-Etienne
10, Rue Tréfilerie -CS 82301
42023 Saint-Etienne Cedex 2,
FRANCE
(Hereinafter referred to as "the *Coordinating Institution"*)

University of Jyväskylä
Mathematics and Science, P.O. Box 35,
FIN-40014 University of Jyväskylä
FINLAND
(Hereinafter referred to as "*Full Partner*")

KU Leuven
Geel Campus, Kleinhoefstraat 4,
B-2440 Geel,
BELGIUM
(Hereinafter referred to as "*Full Partner*")

University of Montpellier
163 rue Auguste Broussonnet
34090 Montpellier FRANCE
(Hereinafter referred to as "*Full Partner*")

(Hereinafter referred collectively to as "*Full Partners*", or "*Hosting Institutions*")

And

Academic Associated Partners: Arizona State University, Politecnico di Bari, University Mohammed V of Rabat, University of Crete, Université de Liège, Vrije Universiteit Brussel
Industrial Associated Partners: 3D PLUS SAS, RADECS, Airbus Defense and Space, CEA, CERN, IBS, Magic Technologies, Microship Technology Nantes SAS, Qinetic Space NV, Mirion, Thales Alenia Space, Thales, TRAD

(Hereinafter referred collectively to as the *"Consortium*")

duly represented by the *Coordinating Institution* by virtue of the mandates for the signature of this *Consortium Agreement* where a provision applies without distinction between the *Coordinating Institution* or another *Full Partner*

of the one part, and

[redacted]
(Hereinafter referred to as "*the Student*")

WHEREAS:

A. The *Student* has been successfully selected to the 2022-2024 intake of the *Programme* by the selection Committee held on March 8th, 2022 at University Jean Monnet, France;

B. The *Consortium and the Student* wish to enter into a *Student Agreement* to ensure the proper participation of the *Student* in the *Programme* activities and guarantee adequate transparency of the *Programme* participation rules by defining both the *Consortium* and Student's rights and obligations in relation to her/his Master courses studies

Hereby agree to this Student Agreement

Sylvain GIRARD	Marilyn BEAUCHAUD
Academic Coordinator	Dean of the Faculty of Science and Technology
University Jean Monnet, Saint-Etienne, France *Coordinating Institution*	**University Jean Monnet, Saint-Etienne**, France *Coordinating Institution*
Date	Date
Signature / stamp	Signature / stamp

[redacted],

I declare that I have read this agreement and accept the conditions included herein.

If you are an EMJMD student (EMJMD scholarship holder)

I certify that I have never been awarded an EMMC (Erasmus Mundus Master Course – Action 1) scholarship prior to application and I acknowledge that I cannot during the period of the *Programme* be beneficiary of a grant for student or staff mobility in the framework of other higher education programmes funded by the European Union budget.

I acknowledge that attribution and reception of the *EMJMD scholarship* payments during the period of the *Programme* is subject to fulfillment of academic and linguistic levels of competence expected from me prior and during the *Programme* as per this *Student Agreement*. I notably acknowledge that the *EMJMD scholarship* offer may be withdrawn in case I fail the evaluation test assessing my capacity to efficiently follow the *Programme* which will be held during the first month of the Programme in accordance with terms laid down in article IV.3.1.5. of the present agreement.

I authorise University Jean Monnet as *Coordinating Institution* of the *Consortium* to deduct the *Participation Costs* directly from the total amount of the scholarship received by the European Commission, at the beginning of each academic year.

If you're a Student from a Partner Country

I certify that I am not resident nor have carried out my main activity (studies, training or work) for more than a total of 12 months over the last five years in a *Programme Country*. The five-year reference period for this 12-month rule is calculated backwards as from the submission deadline defined by the *Consortium* of applying for an *EMJMD scholarship*, i.e. February 8th 2022.

If this is the case, I must inform the administrative coordinator without delay and I acknowledge that I'll be considered as coming from a *Programme country*, notably regarding *Participation Costs* and *EMJMD scholarship* management.

I acknowledge that I won't receive the EMJMD scholarship element "Contribution to subsistence costs" for the Programme periods (study/research/placement/thesis preparation) exceeding three months spent in any Partner Country.

If you're a Student from a Programme Country

I acknowledge that I won't receive the *EMJMD scholarship* element "Contribution to subsistence costs" for the *Programme* periods (study/research/placement/thesis preparation) spent in my country of residence.

Date

Student signature

The legal basis, taking precedence over this present agreement with regards to financial management of the EMJMD scholarships are the English version of Erasmus+ programme guide version 1 - 2020 - valid as of 05/11/2019 – and the Practical Information on Grant Management in the EMJMD beneficiaries Space 2020 website form the Annex XI to the *Grant Agreement* and therefore contractually enforceable.

SECTION I. PURPOSE & SCOPE

Article I.1. Purpose

II.1.1. This *Student Agreement* details all essential implementing rules governing the Erasmus+ Joint Master Degree (hereinafter EMJMD) RADMEP / Radiation and its Effects on MicroElectronics and Photonics Technologies / which have a direct impact on the students, in line with:

- **(a)** the Principles of the European Charter for Higher Education (ECHE),
- **(b)** the guidelines and good practices (including the English version of Erasmus+ programme guide version 1 - 2020 - valid as of 05/11/2019 –, and the Practical Information on Grant Management in the EMJMD beneficiaries Space 2020 website) published by the Education, Audiovisual and Culture Executive Agency, entrusted with the implementation of programmes and activities on behalf of the European Commission (hereinafter referred to as the Agency)
- **(c)** the RADMEP proposal to the Call EAC/A02/2019 (submission number: *EAC/A02/2019*);
- **(d)** the EACEA Letter of acceptance (of *14/07/2020*) reference number *(2020)3716080*
- **(e)** the *Grant agreement* nr *619659* EMJMD PROJECT NUMBER - *619659* between the Agency acting under powers delegated by the European Commission and University Jean Monnet Saint Etienne, the *Coordinating Institution*, and the *Full Partners* duly represented by the *Coordinating Institution*;
- **(f)** the *Administrative and Management Board* Selection meeting's decisions held on March *8th, 2022* using videosystem, as per minutes recorded and made public, and
- **(g)** the *Consortium Agreement* which describes the policies, procedures, terms and conditions with respect to offering an integrated European Master Degree RADMEP / Radiation and its Effects on MicroElectronics and Photonics Technologies /during the period of implementation of the Grant Agreement *619659* including all Annexes, signed by all *Full* and *Associated Partners* of the *Consortium*

II.1.2. This *Student Agreement* must be understood as the "terms of reference" to provide clear guidance on rights and obligations of the *Student* enrolled in the *Programme* and ensure that these rights and obligations are transparent, comprehensive and agreed in mutual consent.

This *Student Agreement* will be implemented within the legal requirements at each *Hosting Institutions*. The English version of this *Student Agreement* is legally binding as English is the working language of the *Consortium* and tuition language of the *Programme*.

Article I.2. Entire agreement

This *Student Agreement* contains the entire agreement of the *Consortium* and the *Student*. No other agreement, statement, or promise made on or before the effective date of this *Consortium Agreement* will be binding on the parties.

Article I.3. Effective date and validity terms

The *Student Agreement* shall enter into force on the date of signature and ends the 15/10/2024.

Article I.4. Amendment

This *Student Agreement* may be modified by the *Coordinating Institution* representing the *Consortium* while the agreement is in effect, upon prior notification to the *Student* and only by an instrument in writing signed by both parties. Amendment might result from the implementation of a decision taken by the *Academic and Management Board* or the *Quality Assurance Board* or alterations or discovery of error in the initial situation of the *Student*. Upon mutual agreement of contractual amendment, the *Coordinating Institution* will issue an addendum to the present contract.

Article I.5. Termination

I.5.1. In case the *Consortium* should agree during an *Academic and Management Board* to terminate the *Programme*, *Full Partners* are obliged to make arrangement for all *Students* who have commenced the *Programme* to complete their units of study and obtain the diploma in a satisfactory way.

I.5.2. Any *Full Partner* wishing to withdraw but which is hosting *Students* who have commenced a *mobility* (commencing one (1) month before the planned physical arrival of the student) at the time of the *Full Partner* notice of withdrawal must ensure that they are entitled to complete the semester, obtain the credits and diploma at the corresponding hosting institution.

I.5.3. A *Student* may withdraw at any time giving thirty (30) day's written notice to the *Academic Coordinator, Local Academic Coordinator* and *Administrative Coordinator*. Financial implications of this withdraw are detailed in Section IV. Financial Arrangements. Withdraw of the *Student* leads to the termination of the present agreement, without recourse to any juridical procedure apart from adequate communication to the academic and administrative staff.

I.5.3. The *Academic and Management Board* may decide to exclude a *Student* from the *Programme* for good cause, giving two (2) weeks written notice to the *Student*. Good cause includes *Student's* breach of this agreement, refusal to cooperate or to follow *Academic and Management Board* or *Quality Assurance Board* decisions. Financial implications of this exclusion are detailed in Section IV. Financial Arrangements. Exclusion leads to the termination of the present agreement, without recourse to any juridical procedure apart from adequate communication to the Student.

Article I.6. Appeal procedure and dispute resolution

I.6.1. If a dispute arises out of or relating to any aspect of this *Student Agreement* between the *Consortium* and the *Student*, the *Student* wishing to appeal on the *Academic and Management Board* decision (including but not limited to grading policy and performance outcomes, mobility, graduation, scholarship management and student exclusion), shall be offered the opportunity to draft a settlement letter, using the template provided on the *Programme* website in .pdf format and annexed to this agreement for information, that must be transmitted to the *Quality Assurance Board* within ten (10) days following the notification of the decision.

I.6.2. The *Quality Assurance Board* may decide or not to ask the *Academic and Management Board* to reassess and reconsider the decision, and to do so before beginning of the following semester or thirty (30) days after the notification of the appeal. The *Student* will be informed of the appeal decision by a written instrument at the very least before the following semester starts or *Programme* ends.

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I.6.3. Appeal with regards to the selection process are ruled by article III.4.6. of the *Consortium Agreement*.

I.6.4. Failing agreement by both parts, the French courts are designated as the only competent authorities to resolve any legal dispute between the Institution and the Student emerging from the Contract. The present Contract will be governed by French Law.

SECTION II. CONSORTIUM ROLES AND OBLIGATIONS

Article II.1. Scope

The *Consortium* agrees to:

(a) undertake to use reasonable endeavors to perform and be responsible for carrying out, promptly, actively and on time, all of its obligations under this *Student Agreement*, the Consortium *Quality Policy* and other obligations derived from the general provisions and special conditions of the *Consortium Agreement;*
(b) be responsible for complying with any legal obligation incumbent on them jointly or individually;
(c) ensure the academic delivery and administrative support services and capacity necessary to execute this *Student Agreement* at each hosting institutions to deliver a high-quality scientific Master degree in Radiation and its Effects on MicroElectronics and Photonics Technologies.
(d) foster *Students* and alumni engagement in the *Consortium* governing bodies.

The *Consortium* shall not subcontract any part of its tasks to any other third party.

Article II.2. Academic description of the programme

II.2.1. Programme name

The *Programme* must be solely referred to any third parties as "RADMEP / Radiation and its Effects on MicroElectronics and Photonics Technologies /". At any time throughout the period of implementation of the *Grant Agreement*, the *Programme* name must be preceded by the mention "Erasmus Mundus Joint Master Degree" or "EMJMD" for short.

II.2.2. ECTS awarded

The *Programme* is a 24 months (2 years), full-time Master of Science study programme and is awarded by 120 ECTS.

II.2.3. Programme objectives

The field of radiation effects on electronic and photonic components and systems is historically linked to space and nuclear power plants, for which radiation environments are particularly constraining. With technological integration, components and systems have become sensitive to the natural atmospheric environment. In the 1990s, the effect of atmospheric neutrons started to be considered in the development of aircraft electronics. The integration of electronic and photonic technologies continues to evolve, today it is the electronic systems at ground level that are sensitive to natural radiation (neutrons). Digital data storage has been an issue for some years now, and it is necessary to bury computers and data centers to protect them. In the context of the energy transition, where we are developing more electric aircraft, electric and autonomous mode of transportation, it is necessary to take this new constraint into account to ensure the reliability of the systems. The dismantling of nuclear power plants will require radiation-resistant optoelectronic and electronic systems, first to observe what needs to be dismantled and then to have the tools to dismantle the sites. Space is undergoing a revolution with the New Space, which consists in using commercial components to make satellites more intelligent and give them unequalled observation and analysis capacities, but which requires the reliability of these technologies, which were not originally intended for space. It will no longer be possible to develop an electronic or photonic system for which the safety of people is essential without recourse to the radiation analysis. of which the students trained by the RADMEP Master's degree will be capable.
A key feature of the RADMEP programme is its focus on advanced and emerging fields in photonics, microelectronics and radiation effects. Through this, students will obtain fundamental knowledge and experience in state-of-the art technologies, their radiation testing and optimization methods. Students will be trained to ◊ Applied Semiconductor Physics to improve their knowledge on the basics of microelectronics and optoelectronics, on ◊ Measuring Techniques; Electron, Photon and Ion Beams methods in Materials Sciences as well as ◊ Efficient Numerical Programming in order to understand how to measure and analyze the radiation responses of advanced technologies. The students will specifically learn about ◊ Radiation Environments and Challenges. Students will then deepen their knowledge and know-how in important aspects of electronics and photonics from theory to practical work in laboratories with world-class facilities and tools on the following topics: ◊ Analog CMOS, ◊ Digital and mixed chip signal, ◊ Optoelectronics or ◊ Basics of Photonics Technologies and Radiation Effects, advanced programming skills such as ◊ Big Data, or ◊ Machine learning will also be accessible to the students.
For the third semester, two different specializations will be offered to the RADMEP students. First one will focus its programme on Radiation Effects on Photonics technologies with units such as ◊ Laser Physics, ◊ Optical Engineering or ◊ Radiation effects on Advanced Photonic and Optoelectronic Technologies. Second one will be more oriented to radiation effects on microelectronics and advanced electronic technologies with courses like ◊ Radiation and Reliability of Electronics for Transport, Aerospace and Nuclear, ◊ Test and Reliability of Integrated Circuits and Systems. All students will then have the opportunity to develop their skills in ◊ Simulation tools for radiation matter interaction and radiation effects on materials, components and systems. RADMEP students will undertake a 6-months master thesis either in either an industrial, an agency or in a research center from the large RADMEP network of associate partners.

II.2.4. Learning Outcomes at Programme level

At the end of RADMEP Programme, students should be able to:

a) Apply knowledge of radiation effects, microelectronics and photonics fundamentals
b) Design and conduct experiments involving radiations, micro-nanotechnologies, photonic or optoelectronic technologies
c) Analyse and interpret data by data processing or other advanced intelligence methods
d) Identify, formulate and solve electronic or photonics problems
e) Design a system, component, or process to meet industrial needs
f) Have an ability to operate in multidisciplinary, multicultural and geographically spread teams
g) Understand the professional and ethical responsibility
h) Communicate effectively in oral, written and other media forms
i) Have a broad education necessary to understand the impact of science solutions in a global and societal context and to advance sustainability
j) Recognize the need to engage in lifelong learning and the ability to do so.

The definition of above learning qualities is variable as they are the result of the close involvement of our industrial partners in the learning design of RADMEP. Hence, they are likely to change from one semester to another to best meet the requirements of employers.

II.2.5. Student eligibility and selection process

Entry requirements, selection process, application assessment and appeal procedure are provided for in Section III. Programme Structure, articles III.3 and III.4 of the *Consortium agreement*.

II.2.6. Number of students per intake

Number of *Students* per intake is determined for each intake by the *Academic and Management Board*, taking into account the need to ensure a continuity of high-level selection and good teaching conditions.

II.2.7. Official language

II.2.7.1. The official language of the *Programme* is English. Any educational material (including unit module supporting material, examination) shall be available in English.

II.2.7.2. Additionally, any administrative communication, process (including the applications files, timetables, intranet interface, administrative template and files) notification, and official certificate and documentation (including the final degrees and diploma supplement) must be in English or translated in English.

II.2.8. Teaching delivery

II.2.8.1. Unit module sequence and *Programme's* milestones

Year 1 : 2022 – 2023

Induction week
(from the 23rd to the 28th of August 2022)

Semester 1

(from the 29th of August to the 31st of December 2022)

Indicative time frame	from September Year n till December Year n+1
Hosting Institution	Jyväskylän yliopisto (JYU)
Country	Finland
Learning rationale	Develop skills and competencies in radiation effects , microelectronics

Semester 2

(from the 14th of February 2023 to the 30th of June 2023)

Indicative time frame	January Year n+1 till May Year n+1
Hosting Institution	Katholieke Universiteit Leuven (KUL)
Country	Belgium
Learning rationale	Develop skills and competencies in radiation effects on microelectronics and photonics

Summer internship
(from the 1st of June 2023 the 31st of August 2023)

Indicative time frame	June / August Year n+1
Hosting Institution	Associated Industrial Partners (or) Associated industrial Partners or Supporting Partners
Country	World
Learning rationale	Professionalization

Year 2 – 2023 - 2024

Semester 3

(from the 01 of September 2023 to the 28 of February 2024)

Indicative time frame	from September Year n+1 till January (Saint-Etienne) or February (Montpellier) Year n+2
Hosting Institution	University Jean Monnet (UJM) (or) University of Montpellier (UM)
Country	France
Learning rationale	Specialization in Radiation effects on *Photonics* or in Radiation effects on *Microelectronics*

Semester 4

(from the 1st of February or March 2024 to the 31st of July or August 2024)

Indicative time frame	from February or March Year n+2 till July or August Year n+2
Hosting Institution	Associated Industrial Partners (or) Associated industrial Partners or Full partner
Country	World
Learning rationale	Professionalization

RADMEP day (graduation ceremony / professional network)
(September 2024)

II.2.8.2. Curriculum 2022-2024 intake

Semester 1

Hosting Institution	University of Jyväskylä (JYU)
Learning rationale	Develop skills and competencies in semiconductor physics, radiation testing, radiation matter interactions
Core Teaching Modules	**= 30 ECTS**
Compulsory courses	**= 22 ECTS**
Applied Semiconductor Physics	5 ECTS
Electron, Photon and Ion Beam Methods in Materials Science	5 ECTS
Measuring Techniques	5 ECTS
Numerical Methods in Physics	4 ECTS
Workshop #1: Basics of Radiation Environments and Challenges related to radiation effects	3 ECTS
Elective units	**8 ECTS**
Electronics part A	4 ECTS
Electronics part B	4 ECTS
Electronics Workshop	2 ECTS
Nuclear Physics	8 ECTS
Fission and its applications	5 ECTS
Systematic Information Seeking	1 ECTS
Creating Careers	1 ECTS
Extra credits:	
Survival Finnish	2 ECTS
Each-one teach-one (Finnish)	3 ECTS
E-Learning Module: Academic Reading / Supplementary Module	2 ECTS
E-Learning Module: Academic Vocabulary	2 ECTS
E-Learning Module: Grammar for Writing	2 ECTS

Semester 2

Hosting Institution	Katholieke Universiteit Leuven (KUL)
Learning rationale	Develop skills and competencies in microelectronics and optoelectronics, radiation effects
Core Teaching Modules	**= 30 ECTS**
Compulsory courses	**= 22 ECTS**
Analog CMOS design	3 ECTS
Embedded Systems	5 ECTS
Ethics	1 ECTS
Digital chip design	4 ECTS
Analog and mixed signal chip design and image sensors	6 ECTS
Workshop #2: Basics of Photonics Technologies and Their use in Harsh Environments	3 ECTS
Elective units	**= 8 ECTS**
Machine learning	4 ECTS
Radiation to electronics project	4 ECTS
RF and PLL design	4 ECTS
Digital Signal Processing	4 ECTS
Extra credits	
Survival Dutch	3 ECTS

Summer Internship

Hosting Institution	Associated Industrial Partners (or) Associated industrial Partners or Supporting Partners

Learning rationale	Professionalization
Optional, internship report	**Extra credits: 10 ECTS**

Semester 3

Hosting Institution	University Jean Monnet (UJM)
Learning rationale	Specialization in *Photonics*
Core Teaching Modules	**= 30 ECTS**
Compulsory courses:	**= 22ECTS**
Laser Physics	4 ECTS
Optical Engineering	2 ECTS
Advanced Photonic and Optoelectronic Technologies	5 ECTS
Radiation Effects on Photonic and Optoelectronic Technologies	5 ECTS
Photonics Labs	3 ECTS
Workshop #3: Simulation tools for Radiation-Matter Interaction and radiation effects on materials, components and systems	3 ECTS
Elective units	**= 8 ECTS**
Digital Innovation and Entrepreneurship	5 ECTS
Scientific Methodology and Project management	3 ECTS
Analytical Instrumentation for Detection	3 ECTS
Radiation to photonics project	2 ECTS
Extra credits:	
French language and culture	2 ECTS

Semester 3

Hosting Institution	University of Montpellier (UM)
Learning rationale	Specialization in MicroElectronics
Core Teaching Modules	**= 30 ECTS**
Compulsory courses	**= 20 ECTS**
Radiation and Reliability of Electronics for transport, aerospace and nuclear	3 ECTS
Test and reliability of Integrated Circuits and Systems	5 ECTS
Industrial Tools and methodologies for devices qualification for space missions	3 ECTS
Embedded Electronics and wireless communication	6 ECTS
Workshop #3: Simulation tools for Radiation-Matter Interaction and radiation effects on materials, components and systems	3 ECTS
Elective units	**= 10 ECTS**
Digital Innovation and Entrepreneurship	5 ECTS
Acoustic Sensors with associated systems	5 ECTS
Optical and thermal Sensors with associated systems	5 ECTS
System on Chip and Embedded systems	5 ECTS
Extra credits	
French language and culture	2 ECTS

Semester 4

Hosting Institution	Associated Industrial Partners (or) Associated industrial Partners or Supporting Partners
Learning rationale	Professionalization
Master Thesis	**= 30 ECTS**

II.2.8.3. Core unit modules

Successful completion of *Core Unit Modules* is awarded by 30 ECTS credits per semester. *Core Unit Modules* include:

(a) *Major units* that any *Students* must follow during semester 1, 2 and 3;
(b) *Minor (optional) units during semester 1, 2 and 3*
(c) *specialization units* during semester 3, to explore in-depth a given field of knowledge within the concentration chosen, and
(d) a *Master Thesis*.

II.2.8.4. Elective Units

Full Partners are encouraged to offer full access to any relevant unit modules taught in English to the *Student*. The Student however acknowledge that the schedule cannot be adjusted to allow specific optional choices by given students (excluding French language units modules).

Full Partners are encouraged to offer local language and culture units to the *Students*.

Although successful completion and validation of the ECTS extra credits must be indicated in the *Diploma Supplement*, the credits obtained for the extra units cannot compensate credits from either *Core Unit Modules* or *Elective Units in which you need to select courses to reach the 30 ECTS quota per semester*.

II.2.8.5. Summer internship

The *Student* is encouraged to devote the summer break to an optional short-term research or work placement. Summer internships are optional and are awarded by additional credit. It should be viewed by the *Student* as an opportunity to have a first work experience in a European context, or to acquire more knowledge in a given topic in the perspective of the concentration units in semester 3 and/or during the Master Thesis.

Short-term placement opportunities and/ research topics will be suggested to student by the *Consortium* during semester 2 and made available on the *Consortium*'s intranet. The *Student* is free to suggest to the *Academic Coordinator* placement or research topic of his/her choice. Summer internship topic should be validated by the *Academic Coordinator*.

Summer internship can take place in any kind of institution (public / private). In case *EMJMD students* choose to come back to their home country, this can have an impact on the *EMJMD scholarship* amount, in accordance with the terms laid down in section IV.

II.2.8.6. Master Thesis

The *Master Thesis* is a cornerstone of the *Programme*. It is designed to allow the *Student* to bridge "academic" experience, the knowledge and skills developed during the first 3 semesters with a first-hand work experience.

II.2.8.6.1. Master Thesis selection

The *Master Thesis* must be undertaken preferably with an *Associated Industrial Partners* or *Associated academic partner or a Full Partner*. The *Consortium* publishes in fall of Year 2 a list of *Master Thesis* proposals on the *Programme* intranet for *Student"* perusal.

However, a *Student* may submit a *Master Thesis* topic with another institution upon approval of her/his Academic Tutor. *Master Thesis* topic should be validated by the *Academic Coordinator*.

Master Thesis must materialize into a work placement of six (6) months. This work placement must be preferably undertaken within a private company or within a public institution such as a research laboratory but with the aim to conduct applied and commercializable research. The focus must be made to applications (products, process, and technologies) of radiation effects on photonics and microelectronics technologies. The Master Thesis proposals are validated every intake by the *Academic and Management Board.*

A dedicated process for *Master Thesis* selection is in place. Details and forms to be completed are available on the *Programme's* website and intranet (*Master Thesis* topics are not published on the web for to guarantee Intellectual Property Rights of corporate partners).

Topic allocation is validated by the *Academic and Management Board* on the basis of the *Student* choices, grades obtained so far, concentration chosen during semester 3 and motivation (as per S*tudent's* cover letter including in the dedicated form for topic selection).

II.2.8.6.2. Master Thesis implementation

Each *Student* benefits from the follow-up of an academic supervisor during her/his master thesis who is a PhD holder or near completion to one and part of the Faculty of universities acting as *Full Partners*. Academic supervisor's follow-up the work of the *Student* regularly. When the placement is done in one of the countries where one *Full Partner* is located, the academic supervisor organizes an on-site visit in addition with regular monitoring at distance.

II.2.8.6.3. Master Thesis defense

The draft of the *Master Thesis* must be approved by the academic supervisor prior to the oral presentation at the thesis defense.

The *Consortium* organizes the *Master Thesis* defense during the "RADMEP day". Members of the jury are:

a. RADMEP academic coordinator;
b. Academic supervisor;
c. Two external supervisors;
d. Host company / institution supervisor;
e. Students / Alumni (not compulsory).

The *Consortium* must publish *Master Thesis*' guidelines on the *Programme* intranet at the beginning of semester 4 to inform the *Student* on detailed expected structure, length, format, layout, referencing method and writing guidance of the written report and supporting slides for the defense.

II.2.8.6.4 Master Thesis Evaluation

The examination of the Master Thesis (MT) will be based on:
- a public defense (2 days in September 2024) of the work realized during the internship (20% of the mark), by an external committee (e.g. associated partners) (not the same as report evaluators)
- a written report (submission of report 2 weeks before the defense) (40% of the mark),
- the ability of the student to work in a team on an applied topic and to reach the initial objectives (by the AMB) (20% of the mark),
- the student's progress made along the internship assessed by the supervisor(s) (20% of the mark).

The grading of MTs will be done by the AMB.

II.2.8.7. RADMEP day

The "RADMEP day" is an event organized each September to gather all RADMEP stakeholders from September 2022 (i.e. induction of intake 2). It will take place at the Coordinating *Institution.*
Example of activities includes:

a. Master Thesis oral defense of previous intake;
b. Induction week of latest recruited intake;
c. Professional networking activities for students and alumni;
d. Workshops and conferences by scholars and professionals of the RADMEP field.

III.2.8.8. Curriculum management

Curriculum is informed with harmonized syllabus for each *unit modules*. It shall detail notably the *Learning Outcomes* expected for each *unit module* and their consistency and internal logic within the unit sequence and overall *Learning Outcomes* at *Programme* level.

Full Partners agree that a degree of flexibility in the catalogue of unit modules offered is essential to drive the *Programme* curriculum in light with the *Consortium* development, and notably the work performed in terms of cooperation with employers to refine the *Learning Outcomes*.
Curriculum for every intake is validated during an *Academic and Management Board* and fixed in the present *Student Agreement*.

The updated *Programme* curriculum shall be published in the *Programme* website when *Students'* Call for Application opens, each *unit modules* referring to the unit syllabus, to allow applicants to have a detailed view on *Programme* academic offer.

Unit modules can be mutualized with other international master programmes units taught in English to foster a true international experience. *Hosting institutions* should however take care that number of *Students* in practical sessions shall be limited to ensure a satisfactory teaching and learning environment.

II.2.8.9. Schedule

The starting date, first session exams, resit dates and ending dates of a given semester are defined one (1) month before the starting of said semester. All these dates shall be agreed by the *Academic and Management Board* in line with the local constraints of each *Host Institution.*

Schedule for current semester is available either physically on the premises of the *Hosting Institution* or online.

II.2.9. Academic tutorship

Host Institutions provide the *Student* with an academic tutor, a PhD holder or near completion to one. The *Student* and their tutor meet at least each month and follow the *Programme's Quality Policy* in order to monitor progress toward achievement of *Learning Outcomes*.

II.2.10. Mandatory mobility component

II.2.10.1. Ensuring meaningful student learning *mobility* is at the core of the *Programme* rationale. The *Student* must spend three (3) complete mobility periods in at least two (2) of the *Consortium's* Higher Education Institutions acting as *Full Partner* (not *Associated Academic Partners*) and which are located in different *Programme Countries* and undertake a *Master Thesis* at one (1) the *Consortium's* Higher Education Institutions acting as *Full Partner*, *Associated Academic Partner* or preferably *Associated Industrial Partner*, *or* corporate partner of the *Consortium* at large.

II.2.10.2. Induction week 2022 takes place at University of Jyväskylä. The first semester takes place at University of Jyväskylä, the second semester at KU Leuven, the third semester either at University Jean Monnet or University of Montpellier and the fourth semester in any public or private institution upon prior agreement by the *Academic Coordinator* and conclusion of a placement agreement.

II.2.10.3. Each of these mandatory *mobility* periods must include a volume of study or placement / thesis preparation corresponding to at least 30 ECTS credits.

II.2.10.4. The mandatory *mobility* periods cannot be replaced by virtual *mobility* (excluding unit modules that are provided by Higher Education Institutions acting as *Full Partners* to ensure consistency of the units sequence) neither can they take place in institutions outside the *Consortium.*

II.2.10.5. The *Student* must choose a concentration track that will determine the *Host Institution* during semester 3. Specialization in Radiation Effects on Photonics is offered at University Jean Monnet, specialization in Radiation Effects on Microelectronics is offered at University of Montpellier. The Student is required to indicate his/her preferred mobility for semester 3 during the application period.

The Academic and Management Board assesses and validates the mobility preference of the during the selection meeting, on the basis of the student motivation (letter + preference expressed during the interview + initial preferred choice in the application, academic background, consistency between the professional project of the Student and concentration offered in Hosting Institutions).

In case of unbalanced distribution of students between the two Hosting Institutions, the Academic and Management Board will decide. 60% / 40% Discussion with coordinator(s) is possible before decision.

II.2.10.6. Each *Student* admitted to the *Programme* shall be administratively and academically registered at the *Coordinating*

Institution and at any other *Full Partner's university* in which they choose to study.

II.2.11. Grading policy

II.2.11.1. Mutual recognition and 'jointness'

Full Partners recognized that the effective implementation of a harmonized process of validation of *Learning Outcomes* is instrumental to ensure to all *Programme's* stakeholders (students and employers alike) the best possible accountability and transparency.

Steps taken to ensure further 'jointness' in learning outcome validation between the *Full Partners* include:

- **(a)** Systematic use of the European Credit Transfer and Accumulation System (ECTS) to define *Programme's* unit modules, to recognize *Learning Outcomes*, and ultimately to allow RADMEP to be an easily readable and comparable degree to increase *Student's* competitiveness and employability;
- **(b)** Shared examination methodologies and performance assessment criteria. In addition, efforts are made through continuous dialogue to tackle cultural differences between *Full Partners* faculty with respect to expectations linked to a given mark. For instance, the evaluation process of the *Master Thesis*, which is conducted by an international jury of at least 2 different faculty members and one professional of the given field of research;
- **(c)** While each *Full Partners* must apply the grading scale in accordance with national and institutional regulations at the institution responsible for the delivery of the *unit module*, the development of a common grading table with guidelines must serve as a reference to compare grading scales directly and state on the successful completion of the *Programme*. This procedure will be transparent as institutional and ECTS grading scales will be available with the *Student* transcripts from each institution, and
- **(d)** Recognized awarded degrees, local diploma supplements and common *Diploma Supplement*.

II.2.11.2. Common grading scale guidelines and correspondence

RADMEP grading system: (All marks: X/10) to assess performance for each unit module			RADMEP grading scale
1	Excellent - outstanding performance	X ≥9	A
2	Very Good - above the average standard but with some errors	8≤ X < 9	B
3	Good - generally sound work with a number of notable errors	7 ≤ X <8	C
4	Satisfactory - fair but with significant shortcomings	6 ≤ X < 7	D
5	Sufficient - performance meets the minimum criteria	5 ≤ X < 6	E
6	Fail - some more work required before the credit can be awarded	4 ≤ X < 5	FX
7	Fail - considerable further work is required	0 ≤ X < 4	F

Grade equivalence between University Jean Monnet institutional grading system and RADMEP grading system

University Jean Monnet grading system: (All marks: X/20) to assess performance for each unit module			RADMEP grading scale
1	Excellent – *Très bien*	X ≥16	A
2	Very Good - *Très bien*	14≤ X < 16	B
3	Good - *Bien*	12 ≤ X <14	C
4	Satisfactory – *Assez Bien*	11 ≤ X < 12	D
5	Sufficient - *Passable*	10 ≤ X < 11	E
6	Fail - *Echec*	X < 10	F

Grade equivalence between University of Montpellier (UM) institutional grading system and RADMEP grading system

University of Montpellier grading system: (All marks: X/20) to assess performance for each unit module			RADMEP grading scale
1	Excellent – *Très bien*	X ≥16	A
2	Very Good - *Très bien*	14≤ X < 16	B
3	Good - *Bien*	12 ≤ X <14	C
4	Satisfactory – *Assez Bien*	11 ≤ X < 12	D
5	Sufficient - *Passable*	10 ≤ X < 11	E
6	Fail - *Echec*	X < 10	F

Grade equivalence between University of Jyväskylä (JYU) institutional grading system and RADMEP grading system

University of University of Jyväskylä (JYU) grading system: (All marks: X/5) to assess performance for each unit module			RADMEP grading scale
1	Excellent - *Erinomainen*	5	A
2	Very Good - *Kiitettava*	4	B
3	Good - *Hyva*	3	C
4	Satisfactory - *Tyydyttava*	2	D
5	Sufficient - *Valttava*	1	E
6	Fail - *Hylatty*	0	FX
7	Fail - *Hylatty*	0	F

Grade equivalence between Katholieke Universiteit Leuven (KUL) institutional grading system and RADMEP grading system

Katholieke Universiteit Leuven (KUL) grading system: (All marks: X/10) to assess performance for each unit module			RADMEP grading scale
1	Excellent – *Très bien*	X ≥16	A
2	Very Good - *Très bien*	14≤ X < 16	B
3	Good - *Bien*	12 ≤ X <14	C
4	Satisfactory – *Assez Bien*	11 ≤ X < 12	D
5	Sufficient - *Passable*	10 ≤ X < 11	E
6	Fail - *Echec*	X < 10	F

II.2.11.3. Rounding rule to determine alphabetical grade from numerical marks

Local Academic Coordinators may decide to round up to the closest higher alphabetical grade when the numerical mark is borderline (minus 0.25 / 10) and upon instructor recommendation.

II.2.11.4. Averaging rule to determine final averaged grade (and honors when applicable to national degree award)

At the end of the *Programme* the weighted average of all unit modules grades and the *Master Thesis* will be calculated. *Students* who have taken more than 18 science-based units or 90 ECTS will get their lowest grade amongst optional units taken out of the calculation of this average. The final numerical and corresponding alphabetical grade is determined by the formula:

> N = number of units validated by a student
> X_i = mark obtained in unit number i
> W_{xi} = number of ECTS corresponding to the unit number i
>
> $X = [SUM_{i=1, \ldots, N} W_{Xi} * X i] / 120$

Academic and Management Board may decide to round up to the closest higher alphabetical grade when the numerical mark is borderline (minus 0.25 / 10) and upon all *Local Academic Coordinators* recommendation.

II.2.11.5. Grading rules

Details examination methodologies and performance assessment criteria (ECTS granted, weighting methods, examination duration and nature) are included in each unit syllabus prior to the beginning of the unit.

Local Academic Coordinators shall use examination methodologies and the weight of different examination as endorsed in each unit syllabus. The numerical mark for each unit is a weighted-average of mid-term written exam (if applicable), final written exam (compulsory), practical work (lab work, if applicable) and acquired skills (if applicable, up to 25% of the final mark).

II.2.11.6. Second session examination

Each course module has at least two exams (excluding final *Master Thesis* defence).

II.2.11.6.1. In case of failed course (F or FX)

The student that failed a unit module performance assessment (i.e. who get an F or a FX as a grade) can take a resit exam to pass the unit and obtain the corresponding ECTS. The "resit" exam will be proposed by the course instructor before the end of the semester. The resit exam is proposed to all students to improve their mark especially when they failed the overall unit.

The resit exams for the first semester will be organized before the end of the semester. The "resit" session of exams for the second and third semesters will be organized within the following month after the first session, to let the student prepare the exam in the institution where he/she studied during that semester.

This resit can be done at distance if mobility to another *Hosting Institution* has already happened.

Only the best grade will appear on the transcripts and diploma supplement.

This resit exam grade will replace the summative examination previous grade. The marks given to practical works (lab sessions, projects, etc.) are kept unchanged between the two sessions of examination and used again in the calculation of the new course grade.

II.2.11.6.2. In case of validated unit (at least E)

Students that have validated the unit module but wishes to improve their grade may choose to join the second session examination.

II.2.11.7. Graduation rules

Validation	*Rule*
Course module	To validate a unit module and be awarded ECTS, a *Student* must get at least an "E". If a *Student* get a F or FX at the first exam session s/he has to retake the examination. The F (or the FX) will be replaced by the new grade if better than previous grade only.
Semester	To validate a semester, a *Student* must capitalize at least 30 ECTS.
Semester 1	*Student* will be allowed to take a maximum of units module corresponding to 35 ECTS. *Student* will be allowed to pursue in semester 2 only if at the end of the semester 1 s/he has capitalized at least 25 ECTS (i.e. if s/he has failed a maximum of 1 mandatory unit module). In that case s/he will be allowed to pursue in semester 2 and will need to compensate missing 5 ECTS during semester 2 (i.e. obtain a minimum of 35 ECTS). If a *Student* don't get this minimum of 25 ECTS at the end of the semester 1, s/he must stop her/his academic year. S/he is allowed to enroll again in the *Programme* for the next intake as a self-funded student once. Upon agreement by the *Academic and Management Board* (in case of justified health or personal issues), the student may only pay local tuition fees of the first *Hosting Institution.*
Semester 2	*Student* will be allowed to take a maximum of 35 ECTS. *Student* will be allowed to pursue in semester 3 at the end of the semester 2 provided that s/he has capitalized at least 60 ECTS over the two first semesters. If a student doesn't get this minimum of 60 ECTS at the end of semester 2, s/he is allowed to enroll again in the *Programme* for the next intake as a self-funded student once. Upon agreement by the *Academic and Management Board* (in case of justified health or personal issues), the student may only pay local tuition fees of the Second *Hosting Institution.*
Semester 3	*Student* will be allowed to pursue in Master Thesis at the end of the Semester 3 provided that s/he has capitalized at least 90 ECTS. If a student doesn't get this minimum of 90 ECTS at the end of semester 3, s/he is allowed to enroll again in the second year of the *Programme,* once. Upon agreement by the *Academic and Management Board* (in case of justified health or personal issues), the *Student* may only pay local tuition fees of the third *Hosting Institution.*
Semester 4	The *Master Thesis* successful completion is awardee by 30 ECTS and is equivalent to a semester of learning. If a *Student* failed her/his Master Thesis, s/he is allowed to enroll again in the second year of the *Programme,* once. Upon agreement by the *Academic and Management Board* (in case of justified health or personal issues), the *Student* may only pay local tuition fees of the *Coordinating Institution.*
Programme	To validate the *Programme* and be awarded the EMJMD diploma and multiple national diploma, the *Student* must have validated the four semesters, i.e. s/he must have capitalized at least 120 ECTS.

II.2.11.8. Student record

With relation to assessment and reporting, each *Host Institution* has the primary and ultimate responsibility for obtaining from the lecturer and transmitting to the *Coordinating Institution* and other *Host Institutions*, in a timely fashion, assessment records for all *Students*.

II.2.11.9. Fraud / plagiarism

An information session is given to *Students* at the beginning of the *Programme* regarding plagiarism. This includes notably details on what could be considered as plagiarism, as opposed to group work and guidelines regarding referencing rationale and methodologies. In addition, instructors are strongly encouraged to give, at the beginning of their unit module, clarification regarding specific performance assessment methods and expectations.

Each *Full Partner* must apply national and institutional regulations at the institution responsible for the delivery of the *unit module* in case of fraud and/or plagiarism. *Hosting Institution* must notify with no delay instances of suspected fraud, along with factual elements (examinations sheets, instructors and *Student*/s formal feedback) to the *Academic and Management Board*.

In addition to the national procedure and potential outcomes that can result from the fraud / plagiarism, the *Academic and Management Board* may decide to convey an exceptional distance meeting to take complementary disciplinary measures against wrongdoer students. Concerned instructor, *Local Academic Coordinator* where the instance of fraud may have happened and *Student'* delegate must be part of this meeting. Concerned *Student/s* must be given the opportunity to defend themselves during this meeting. Measures can range from cancelation to the examination to final exclusion from the *Programme*. *Student*/s may appeal in accordance with the terms laid down in Article I.7.

II.2.12. Joint recognition mechanisms and degrees awarded

II.2.12.1. Joint recognition

Each *Full Partner* has formally considered and approved this Erasmus Mundus Joint Master Degree under the normal national approval procedures for new degree programmes.

Full Partners jointly recognize the unit modules and corresponding ECTS awarded in each Higher Education Institutions acting as *Full Partner* for the purpose of the award of their own national diploma. Mandatory *mobility* periods at *Host Institutions* are fully recognized by the *Full Partners* and are linked to the awarded degree.

The final list of graduates / alumni is endorsed every intake by an *Academic and Management Board* and published in the *Programme* website upon explicit agreement by graduates.

II.2.12.2. Degrees awarded

The triple *Erasmus Mundus Joint Master Degree in Radiation and its Effects on MicroElectronics and Photonics Technologies* will be awarded after two years on the completion of 120 ECTS in three *Full*

Partner universities (from semesters 1 to 3) and in one corporate partner (during semester 4) in accordance to grading and semester validation.
Successful completion of the *Erasmus Mundus Joint Master Degree Radiation and its Effects on MicroElectronics and Photonics Technologies* will result in the award of multiple Master degrees (i.e. three (3) national diplomas issued by three (3) Higher Education Institutions from three (3) European countries and fully recognized in these respective countries).
According to the concentration which has been chosen by the graduate, the consortium will deliver multiple diplomas from Jyväskylän yliopisto (JYU), Katholieke Universiteit Leuven (KUL) and University Jean Monnet (UJM) (specialization in Photonics) OR Jyväskylän yliopisto (JYU), Katholieke Universiteit Leuven (KUL) and University of Montpellier (UM) (specialization in Microelectronics)

Awarding Institution	National degrees awarded, official name in local language	National degrees awarded, legalized English translation
University Jean Monnet (UJM)	Master Optics, Image, Vision, Multimedia With the specialization "Radiation and its Effects on MicroElectronics and Photonics Technologies"	Master Optics, Image, Vision, Multimedia With the specialization "Radiation and its Effects on MicroElectronics and Photonics Technologies"
Jyväskylän yliopisto (JYU)	Filosofian maisteri	Master of Science
Katholieke Universiteit Leuven (KUL)	Master of Science in Electronics and ICT Engineering Technology" with the specialisation "Radiation and its Effects on MicroElectronics and Photonics Technologies"	Master of Science in Electronics and ICT Engineering Technology" with the specialisation "Radiation and its Effects on MicroElectronics and Photonics Technologies"
University of Montpellier (UM)	Master Electronique, Electrotechnique et Automatique with the specialization « Radiation and Its Effects on Microelectronics and Photonics Technologies"	Master diploma "Electronic, Electrical Engineering and Automatic", with the specialisation "Radiation Effects on Electronic Devices and Circuits".

II.2.13. Diploma supplement

In addition to official diplomas and to ensure the best understanding and recognition of the *Programme* graduates achievements, notably towards employers, the *Full Partners* shall deliver to each *Student* a personalized *Diploma Supplement*, signed by all awarding Higher Education Institutions and issued by University Jean Monnet, the *Coordinating Institution*, including:

(a) learning objectives and *Consortium* track-record and recognition;
(b) overall organization of the study *Programme* (selection process, *mobility*, host institutions, Learning Outcomes, methods of assessment, tuition language);
(c) added value brought to the *Students* with respect to *Learning Outcomes* (which have been developed in cooperation with recruiters from the industry);
(d) full transcript of all units (120 ECTS credits minimum) obtained during the master, concentration and grades obtained (including overall cohort ranking and relative position of each grade obtained with regards to cohort performance and final averaged grade (and honors when applicable to national degree award), Master Thesis subject, and
(e) awarded degrees in national languages and legalized English translation.

A template of this diploma supplement must be made available on the *Programme* website.

II.2.14. Diploma and diploma supplement delivery

II.2.14.1. Legal framework for French diploma award

University Jean Monnet Master's Degrees are edited by the Directorate of Training and Professional Integration, upon a list endorsed by the Faculty of Science and Technology, they are then signed by the President of the University and the Rectorate. Circular No. 2006-202 of 8 December 2006 defining the guidelines for developing and issuing diplomas in the framework of the "LMD".

A degree is individual and unique. It is the *Student's* responsibility to keep the original and to make copies. Forgery is punishable under Article 441-2 of the Criminal Code. A duplicate certificate can be provided upon presentation of proof. In case of destruction, loss or theft of a diploma degree, and subject to the submission of formal proof (claim form, receipt of a complaint, affidavit …), University Jean Monnet can issue a duplicate of the diploma. To request a duplicate of your diploma, the *Student* must fill in a Request of diploma duplicate (in French) and send it to the *Administrative Coordinator*. Form and translation in English of this form are available on the *University Jean Monnet* website.

II.2.14.2. Cases when the Student must register in PhD school

Considering below timeline, graduates wishing to enroll in PhD studies right after the completion of their master might need a temporary certificate of completion to demonstrate they will be soon awarded a master degree. The *Student* can require this certificate to the *Administrative Coordinator* as soon as s/he has defended her/his Master Thesis in July or September of Year n+2 at the latest.

II.2.14.3. Timeline for diploma edition and delivery

Issuance of the diplomas follows the transmission of minutes of jury and / or defense by the secretariats of faculties. In each component, a temporary certificate of completion ("Attestation de réussite") is issued to successful *Students*. The final original diploma is produced in a period of less than six months.

By December of the graduating year (e.g. December 2024 if you've defended your MT in September 2024 for instance), the *Student* received a mail as soon as the national diplomas from University Jean Monnet and, if applicable, University of Montpellier and Katholieke Universiteit Leuven and Jyväskylän yliopisto are ready to be sent.

II.2.14.4. Collecting the diploma/s in Saint Etienne

Your diploma/s can be collected at the University Jean Monnet, campus Manufacture, Bâtiment des Forges, 1st Floor, office 118, 11 rue du Docteur Annino, 42000 Saint-Etienne, France, from 9:00 am to 12:00 am. You must bring your provisional certificate and a valid ID / passport.

In case you cannot come to Saint Etienne yourself but know someone who can collect your diploma/s on your behalf, you can fill in and send back to the Administrative Coordinator the Proxy form (in French). Translation in English of this form is available from the *Administrative Coordinator*.

II.2.14.4. Mailing delivery of diploma/s

The *Student* can alternatively have her/his diploma/s send to a city hall in France or a French embassy / consulate in the *Student's* country of residence.

In that case, the Student must fill in a delivery request (in French) to the *Administrative Coordinator*. Translation in English of this form is available from the *Administrative Coordinator*.

II.2.15. Local Academic Coordinator contacts

Coordinating Institution	Contact	
University Jean Monnet (UJM	Prof. Sylvain Girard	sylvain.girard@univ-st-etienne.fr
Hosting Institutions		
University Jean Monnet (UJM)	Prof. Sylvain Girard	sylvain.girard@univ-st-etienne.fr

Jyväskylän yliopisto (JYU)	Prof. Arto Javanainen	arto.javanainen@jyu.fi
Katholieke Universiteit Leuven (KUL)	Prof. Paul Leroux	paul.leroux@kuleuven.be
University of Montpellier (UM)	Prof. Frédéric Saigné	frederic.saigne@ies.univ-montp2.fr

Article II.3. Student's affairs and administrative services

II.3.1. Effective enrollment

Effective enrollment in the *Programme* of successful applicants is subject of:

- ***(a)*** conclusion and signing of a *Student Agreement* between the *Student* and the *Consortium* and providing for rights and obligations of both parties and
- ***(b)*** payment of the first installment of the *Participation Costs* to the *Coordinating Institution*.

II.3.2. Administrative enrollment in universities acting as Full Partners

The *Student* must be registered in the *Coordinating Institution* during the full duration of the *Programme*, i.e. s/he must register during two academic years. Registration for the second academic year can be done at distance.

The *Student* must be registered in each university acting as *Full Partners*, in accordance with the mobility scheme chosen.

Full Partners agree to offer to the *Student* a level of administrative services at least equivalent to services normally performed to international students they welcome. *Programme's* student must be treated and served by *Full Partners* in the same way as home students, irrespective of gender, ethnic background, religion or other belief, sexual orientation, or disability.

While at the *Host Institution*, the local policies for resolution of complaints and appeal will apply in addition to policies at *Consortium* level detailed in the present agreement.

II.3.3. Administrative coordination

Full Partners recognized the need to facilitate as much as possible the sometimes heavy administrative process implied by enrolling in a European Master Degree located in four different countries and their respective set of national regulations to allow *Students* to focus on their studies. *Full Partners* agree to ensure any additional administrative cooperation which is needed due to the high level of integration and compulsory *mobility* of the *Programme*. This includes notably:

(a) a "single-window system" with one *Administrative Coordinator* following-up *Students*' overall "administrative life" from selection to post-graduation. The *Student* receives advices and guidance at each campus from one single dedicated *Local Administrative Coordinator* point along the way;

(b) a single primary focal point for administrative issues (the *Administrative Coordinator*) who will be in charge to ensure the best possible implementation of any administrative process needed for the *Student* full participation in the *Programme* and, if applicable, act as the intermediary with *Local Administrative Coordinators*;

(c) *Local Administrative Coordinator/s* in each *Hosting Institution* acting as the main focal point for any administrative issues the *Student* might have to deal with or face during her/his stay in *Hosting Institution*'s country or at least a contact person that liaises with relevant services. *Local Administrative Coordinators* are responsible for:
   a. Implementing in liaison with *Local Academic Coordinators* the *Academic and Management Board*'s decisions;
   b. Implementing in liaison with *Local Academic Coordinators* the *Quality Assurance Board*'s decisions;
   c. Managing operational activities linked with academic services, and notable teaching delivery, *Learning Outcomes* validations and degree delivery, in liaison with the *Administrative Coordinator*; and
   d. Ensuring the delivery of student's affairs services, and notably be the primary focal point for all *Students* during their stay, for immigration, housing, banking, insurance, scholarships and health affairs.

Each Local Administrative Coordinator are primary focal points regarding all student's services and information with regards to given *Host Institution* (i.e. visa application guidance should be sought by the *Student* from the *Local Administrative Coordinator* of the university where the *Student* have to study next).

II.3.4. Administrative services at Coordinating Institution level

The *Student* is entitled to receive administrative services with regards to:

a. Pre-arrival services
   a. guidance on Finnish residence permit application (follow-up and confirmation with Finnish Consulate; provision of certificate of admission and certificate of residence upon selection);
   b. housing services during semester 1 (pre-booking);
b. banking service (free of charge bank account opening);
c. information on administrative steps during the Programme (documentation needed through the entire duration of the *Programme*);
d. *Participation Costs* and scholarship management in accordance with provisions laid down in section IV of the present agreement;
e. Key information needed to prepare mobility in each *Hosting Institutions* (visa application details, accommodation services available, reference to key information) is available on the *Programme's* website;
f. a full health and accident insurance coverage, in accordance with the minimal requirements of the Erasmus+ Join Master Degree *Programme* provided in the Practical Information on Grant Management in the EMJMD beneficiaries Space 2020 website (coverage, conditions, restrictions and helpdesk contacts are available on the website, the *Administrative Coordinator* is available to liaise directly and support the *Student* in insurance-related processes);
g. alumni network access and events;
h. professional network and events and job / PhD opportunities;
i. *Programme's* milestones and events (mobility management, summer internship and *Master Thesis* legal framework, delivery of diploma and diploma supplement).

Provide special tutoring / mentoring programs

The *Student* understands the *Coordinating Institution* commits only to provide administrative services directly linked to the academic delivery of the *Programme* (such as registration, *Participation Costs* and scholarships management, insurance cover, graduation). The *Coordinating Institution* must make reasonable endeavors to facilitate as much as possible provision of additional services provided by third parties and ruled by other relevant agreements, such as immigration steps, housing and banking, but the *Student* ultimately bears the sole responsibility of such contractual arrangements.

II.3.4.1. Housing services

The *Student* acknowledges that the contract will be concluded upon arrival and subject to the payment of a deposit and registration fees. The *Student* agrees that any expenses related to housing services is own and sole responsibility and that *Hosting Institutions* accepts no responsibility with regards to problem incurred as a result of the contractual relationship concluded.

II.3.4.2. Banking services

Non-European *Students* need a Euro bank account during the period of the study. Non-European *Students* (and European *Students* if they wish to) may ask the *Coordinating Institution* to support them in this process.

II.3.5. Administrative services at Hosting Institution level

Full Partners commit to provide in due time to the *Student* information on the systems that are necessary for the studies and information about the university study regulations and regulations for examinations and appeals (referenced on the programme website).

The *Student* is entitled to receive administrative services with regards to guidance and support on administrative steps to be taken (visa application, residence permit, potential housing allowances, information on student life registration, schedules, campus services, university regulations, graduation rules, legal advice, health and sport services, diploma delivery when applicable directly by the *Host Institution*.

II.3.6. Women's empowerment

The *Full Partners* are dedicated to achieve equity for women in science and agree to support women who face difficult circumstances or barriers to their full participation, notably for women planning to enroll while having to care for children.

II.3.7. Student with special needs

Students with specific learning difficulties (e.g. dyslexia) and disabilities (e.g. visual impairment - partial sight or blind, hearing loss - partial hearing or profoundly deaf, mobility difficulties or wheelchair use, …) are advised to disclose any disabilities, in confidence, at the earliest opportunity so that the Consortium can make provision for the *Student's* needs even if the *Student* does not believe that additional support is required.

The *Hosting Institutions* are striving to improve its facilities to ensure equal opportunities for all students with disabilities and specific learning difficulties. *Host Institution's* disability support services, support includes special arrangements for examinations, liaison with tutors and needs assessments.

II.3.8. Local Administrative Coordinators contacts

The *Student* should contact following focal points:

Coordinating Institution	**Contact**	
University Jean Monnet (UJM)	Amélie Genvrin	amelie.genvrin@univ-st-etienne.fr
Hosting Institutions		
University Jean Monnet (UJM)	Amélie Genvrin	amelie.genvrin@univ-st-etienne.fr
Jyväskylän yliopisto (JYU)	Leena Mattila	leena.m.mattila@jyu.fi
Katholieke Universiteit Leuven (KUL)	Hilde Lauwereys	hilde.lauwereys@kuleuven.be
University of Montpellier (UM)	Inmaculada Dosuna	inmaculada.dosuna@umontpellier.fr

II.3.9. Intellectual Property Rights management

National regulations and institutional policies regarding intellectual property rights of each *Hosting Institutions* will apply to management of intellectual materials produced within the framework of the *Programme*, including but not limited to teaching materials produced during the period of this agreement. If generated by the *Student*, it will be subject to the rules of the *Hosting Institution* where the *Student* was registered at the time the intellectual property was created.

Separate agreement may govern the management of Intellectual Property Rights that arise from *Student*' work, including cases studies, industrial projects and *Master Thesis*. The *Student* understands that her/his work might be subject to non-disclosure agreements and that the owner of the intellectual property produced may, in accordance to specific agreement concluded at that time, be any *Hosting Institution* or third parties.

II.3.10. Protection of personal data

All the personal data disclosed during this Project will be treated according to the Regulation EU no. 2016/679 (General Data Protection Regulation), being applicable also the national law that adapts the Regulation into each national legal system. Each Consortium Member will adopt the role of data controller in relation to any personal data processed by the Consortium Member as part of such Consortium Member's participation in the Programme. If a Consortium Member detects that their processing activities require a specific separate contract, including but not limited to data processing agreement or data sharing agreement, such Consortium Member shall notify the other Consortium Members it reasonably deems may be affected thereby without undue delay, and such affected Consortium Members shall undertake to establish such specific separate contract without undue delay. All Consortium Members are required to keep appropriate documentary evidence of data generation and handling.

Data subjects are:

(a) applicants' personal data uploaded on the on-line application server during the Call for Application for Students as listed in article III.4.2. of the *Consortium Agreement*;
(b) The *Student*
(c) academic results during participation of the *Student* in the *Programme*.

The transfer is necessary for:
(a) the *Student* selection process as detailed in article III.4. of the *Consortium Agreement*;
(b) the monitoring of student's *Learning Outcomes* and academic results.

The personal data transferred may be disclosed only to *Local Academic Coordinators* and *Local Administrative Coordinators* of each *Full Partner* and internal services in charge of the procedure that requires the personal information.

The personal data transferred may be stored for no more than six (6) years (i.e. one (1) year more than the period of implementation of the *Grant Agreement)*.

II.3.11. Use of *Student's* pictures

The student, for good and valuable consideration, the receipt of which is acknowledged, hereby grants to *Consortium*, its legal representatives, assignees, and those acting under its authority, the unrestricted right and permission to copyright and/or use, and/or publish photographic portraits or pictures of the *Student*, and the negatives, transparencies, prints, or digital information pertaining to them, in still, single, multiple, moving or video format, or in which *Student* may be included in whole or in part, or composite, or distorted in form, or reproductions thereof, in color or otherwise, in any media for advertising or any other lawful purpose.

SECTION III. STUDENT ROLES AND OBLIGATIONS

Article III.1. Student Engagement

The Consortium expects the *Student* to:

a. know the study programme descriptions and the unit descriptions and meet the compulsory activities and the given deadlines;
b. know the study regulations and the regulations for examinations and appeals at both *Consortium* level and *Hosting Institution* levels;
c. use the systems regularly and take advantage of the possibilities given, like the library, ICT and laboratories.
d. read the information sent by e-mails by the *Consortium's* academic and administrative staff and take action when applicable. They must use the e-mail account given at the time of application or notify the *Administrative Coordinator* of change of principal email.
e. participate at the best of their capabilities to the implementation of the *Consortium's Quality Policy* and governance of the *Consortium*.

Article III.2. Ethics

The *Student* engages to behave with ethics during his/her studies. He/she will commit no fraudulent act, and will specially avoid cheating, falsification or plagiarism of any academic work. Moreover, he/she will not abuse or misuse the access to equipment and installations and will not perform any unauthorized access or violation of departmental or university rules. Any incident against this compromise will be treated by the *Academic and Management Board* and may cause the exclusion of the *Student*.

The *Student* acknowledge that her/his participation on a European programme may require cultural adaptation to local customs, "do and don't" of a given culture.

Article III.3. Attendance

III.3.1. General provisions

The *Student* commits her/himself to duly attend the *Programme* including all prescribed lectures, labs sessions, seminars, examinations and activities of *Programme*, having a duration of two academic years, upon the signature of this *Student Agreement*.

The *Student* shouldn't, in any cases, leave the national territory of the *Hosting Institution* without prior notification and justification to local *Academic* and *Administrative Coordinators*.

Attendance is monitored by instructors on a daily basis and administrative staff on a monthly basis. In case a *Student* cannot attend a unit module for predictable good cause (health issues, administrative tasks), s/he must notify the instructor and copy the local academic and/or administrative coordinator. The *Student* must enclose to this leave request a justification (Local medical record for health issues, meeting request for administrative tasks for instance).

A maximum of 10% of absence is allowed (10% of a given unit module with regard to volume of hours and 10% of global hourly volume of a given semester cumulatively). Any absence beyond this threshold will be considered by the *Academic and Management Board* and the *Student* will be requested to justify her/his absence. In case of repeated and unjustified absences, measures taken by the *Academic and Management Board* can range from cancelation of the examination to final exclusion from the *Programme* and cancellation of any scholarship directly managed by the *Consortium* upon one (1) month noticed to the student. The *Student* may in that case appeal in accordance with the terms laid down in Article I.7.

III.3.2. Justified cases of extended leave

The *Student* who has to interrupt his/her studies for a certain period of time, due to justifiable reasons of health, pregnancy or family matters, must notify the *Academic* and *Administrative Coordinators* and seek formal agreement prior to the beginning of the leave period.

All such situations will be evaluated on an individual basis by the *Academic and Management Board*.

III.3.3. Withdraw of the Programme

In case the student wishes to leave the *Programme*, s/he must notify the *Academic* and *Administrative Coordinator* in accordance with the provision laid down in article I.5.3. This will notably result in cancellation of the scholarships managed by the *Consortium*.

Article III.4. Student and Alumni active involvement in the Consortium governing bodies

III.4.1. Students Delegates roles

Students agree to collegially designate two (2) *Students Delegate*s who will represent all the *Students* during the said intake and who will act as the main focal point between the *Academic and Management Board* and *Quality Assurance Board* on one hand and the *Students* on the other hand.

Students must elect one (1) delegate and one (1) alternate delegate for their cohort two (2) months after the beginning of the *Programme* at the latest and notify the *Academic and Administrative Coordinators*. Method of election is left to *Students* own judgement.

Students Delegates' roles entails:

a. organize regularly meeting/s on his/her own initiative with her/his fellows, physically or virtually (notably during semester 3 and 4 when *Students* are not located at the same place);
b. feedback, anonymously if requested by *Student/s*, to *Academic and Administrative Coordinators* or *Consortium* governing bodies any *Student's* feedback, positive (idea for development) or negative (collective and individual concerns that might arise during the period of the *Programme*, issues faced by the S*tudents*);
c. take part in the *Programme* governance bodies work and meetings, in accordance with the terms laid down in article II.1, the *Consortium Agreement* and the *Programme Quality Policy*. This implies notably the obligation for each delegate to:
    a. participate in the *Consortium's Academic and Management Board* and *Quality Assurance Board* held physically twice a year and virtually anytime upon proposition of the Heads of the Boards or any *Full Partners* request, and
    b. participate in meeting organized by the *Programme's* financial partner, notably the Agency (indicatively up to two meetings for the duration of the funding).

III.4.2. Alumni Delegate roles

At the end of the *Programme*, the *Students* shall elect one or several *Alumni Delegate/s* that will represent the cohort within the *Programme* governing bodies. *Students delegates* and *Alumni Delegates* may or may not be the same individual.

Students must elect one alumni representative for their cohort two (2) months before the end of the *Programme* at the latest and notify the academic and administrative coordinator. Method of election is left to *Students* own judgement.

Alumni Delegates roles entails:

a. be, on a voluntary basis, the cohort focal point for alumni management, including the annual alumni employability survey, the community management of social media linked to the *Programme*.
b. inform regularly alumni of progress of the *Programme* milestones, achievement and strategy and take all necessary endeavors to further alumni cooperation in the *Programme* in liaison with the *Academic and Administrative Coordinators.*
c. take part in the *Programme* governance bodies work and meeting, in accordance with the terms laid down in article II.1, the *Consortium Agreement* and the *Programme Quality Policy*.
d. take part in *Master Thesis* jury, in accordance with the terms laid down in article II.2.8.6.2.
e. Promote their fellow colleagues to participate in the Erasmus Mundus Student and Alumni association

III.4.3. Student roles in Consortium's Quality Policy

The *Student* shall dedicate time and attention to formal (i.e. online questionnaires) and informal (focus group at the end of each semester) monitoring and evaluation activities implemented within the framework of the *Consortium Quality Policy*.

Rationale, frequency, objectives and exploitation of data of these monitoring and evaluation activities are defined and ruled by the *Consortium's Quality Policy*, designed and updated regularly by the *Quality Assurance Board* and available on the *Programme's* website.

Participation to these surveys is compulsory and linked to the academic validation of credits and hence diploma (i.e. each unit module must be assessed by the student for him/her to get the ECTS associated to the unit module, and the overall academic and administrative experience during a mobility period must be assessed to validate the semester). Although administration of these surveys is carried out anonymously, The *Student* may be required to complete individual online questionnaire to ensure full participation. The *Administrative Coordinator* is the only individual that can access individual data and s/he is obliged to convey to the *Consortium* governing bodies only aggregated data or anonymized qualitative feedbacks.

Article III.5. Visibility and marketing of the Programme

III.5.1. Obligations regarding use of Programme's marketing materials

The *Student* commits to follow the guidelines available on the *Programme's* website with regards to use of the *Programme* name, logo and any materials owned by the *Consortium*.

III.5.2. Obligations regarding communication with Consortium's financial and technical partners

The *Coordinating Institution* must be the intermediary for all communications between the *Student* and between the *Consortium* third parties, i.e. technical and financial partners, including the *Agency*. The *Student* acknowledges that the *Agency* cannot answer specific complaints that *Students* might have regarding the *Programme* on an individual basis. The *Student* is advised to follow first the appeal process in accordance with the terms laid down in article I.7. prior to attempt to lodge a complaint before the *Agency*.

III.5.3. Student's participation to the Programme marketing

Although not compulsory, the *Student* is encouraged to join her/his efforts to deliver publicity for the *Programme* and design joint promotion and awareness-raising activities in order to ensure the worldwide visibility of the *Programme* as well as the scholarship scheme. The *Student* may contribute to promote the *Programme* by disseminating communication materials and by leveraging their own networks, notably to publicize *Students*' *Call for Application* and contribute to raise the *Consortium* and *Programme* profile in their academic and institutional networks.

This can be done on a voluntary basis notably through the "Ambassador Programme", connecting current *Students* and alumni with prospect applicants who may wish to have a direct feedback of a *Student*. The *Student* is free to decide a maximum number of applicants to connect with and preferred mode of connection. Discussion are "peer-to-peer" and kept confidential. Ambassadors have to agree explicitly by email to their participation in the *Programme* and use of their picture and contact details.

Article III.6. Students associations

The *Student* is advised to join the Erasmus Mundus Association and to engage in the association governance and activities.

The *Student* is encouraged to set-up his/her own alumni association. Funding may be made available by the *Consortium* to cover set-up costs.

SECTION IV. FINANCIAL ARRANGEMENTS

Article IV.1. Student interlocutor for financial matters

The *Coordinating Institution* is primarily responsible to arrange proper management and payment of:

a. *Participation Costs*, including insurance fees and national tuition fees;
b. Scholarships - *EMJMD scholarships* and *Consortium scholarships.*

Hosting Institutions may manage directly national (government or university sponsored) scholarship programmes.

Article IV.2. Participation Costs

IV.2.1. Participations Costs amount and payment method

Participation Costs for the 2022-2024 intake are set as follows**:**

	Students from Programme Country	*Students* from Partner Country
total Participation Costs (entire Programme, 4 semesters)	€ 9,000	€ 18,000
Participation Costs for one academic year (2 semesters)	€ 4,500	€ 9,000

Participation Costs must be paid in at least two instalments, per academic year, at the time of registration (during the induction week) or re-registration (at distance) to the *Coordinating Institution*.

Payment for the first academic year can be done in three (3) separate instalments, providing that the *Student* pay by visa card (which is part of free of charge banking services provided). Payment can be done by bank transfer or visa card but cannot be done by cash.

EMJMD students don't have to pay directly *Participation Costs*, providing that they agree, by signature of this agreement, to allow the *Coordinating Institution* to directly deduct due *Participation Costs* from corresponding *EMJDM scholarship* component.

Academic and administrative registration is effective only when the first instalment is paid.

IV.2.2. Determination of the Student's country category

Participation Costs differ if the *Student* is from (i.e. hold the nationality of) a "*Programme Country*" or "*Partner Country*". This distinction reflects the rationale of financial instruments of European Union external action.

The legal basis and documentation that prevails for determining if an applicant must be considered as from a *Programme* or *Partner Country* is the English version and 2020 version of the *Erasmus+ Programme Guide*, pages 24 to 26 (valid as of 20/01/2017), the Practical Information on Grant Management in the EMJMD beneficiaries Space 2020 website.

In addition and in line with the *Grant Agreement* requirements:

a. applicants with a double nationality must specify the nationality under which they submit their scholarship application. At the time of application, applicants must choose one and only one nationality if they hold dual citizenship (referred as "the "single nationality rule"), and

b. applicants from *Partner country* but who have carried out their main activity (studies, training or work) for more than a total of 12 months over the last five years in a *Programme country* will be considered as coming from a *Programme country*. The five-year reference period for this 12-month rule is calculated backwards as from the submission deadline (referred as the "12-months rule").

Higher *Participation Costs* for *Students* coming from a partner country account for special needs, including more expensive hiring and student's services costs.

IV.2.3. Services included in Participation Costs

Participation Costs that are charged to each *Students* cover, for the entire duration of the *Programme*, the costs related to:

a. selection costs (no cost shall be charged at the time of the application);
b. registration, and notably local tuition fees in *Hosting Institutions;*
c. French social security and health services during the period of the *Programme*;
d. full access to the *Programme* curriculum (units, offer of master thesis in the industry, exams, thesis examinations, in-site visits);
e. social insurance and full insurance coverage complying with the *Agency* requirements during the entire period of the *Programme*;
f. Students' Affairs services including administrative counseling, degree delivery, support for banking, housing, and immigration affairs;
g. full access to any scientific units offered by *Hosting Institution*, upon agreement of the *Student's* academic tutor;
h. full access to *Hosting Institution's* libraries, laboratories and online resources services related to the *Programme*
i. full access to *Hosting Institution* services
j. dedicated local languages units;
k. special tutoring / mentoring by an academic tutor; access to events and networking activities with industry and alumni;
l. edition of diplomas, and
m. any other mandatory costs related to the *Student's* full participation in the *Programme*.

These *Participation Costs* do not cover:

a. travel expenses from home country to the *Coordinating Institution* and from one *Host Institution* to another during the length of the *Programme*;
b. travel and immigration documentation (e.g. visas fees, stamps…);
c. accommodation costs (deposit management fees, housing tax, …)
d. sports activities, although largely subsidized; (e.g. 24 € lump sum for the first semester)
e. cultural activities, although largely subsidized;
f. books, stationery, personal laptop, and
g. *Student* Associations' membership fees, when applicable

IV.2.4. Budgeting

Self-financed students are encouraged to plan their 2-year budget ahead of the induction week. The *Consortium* must inform, at the time of selection, a ballpark figure of *Participation Costs* and expected costs of living that *Self-financed students* shall be able to meet. This financial ability to cover cost of education may be required for visa application.

Article IV.3. Scholarships

IV.3.1. Scholarships holder selection

IV.3.1.1. EMJMD scholarships

There is no specific application process or additional information needed for applicants to apply to *EMJMD scholarships*. Those scholarships are merit-based, the same selection criteria, method and decision-making for selection to the *Programme* will be applied to grant *EMJMD scholarships* (best-ranked applicants being offered *EMJMD Scholarships* constituting the *main list*).

However, additional eligibility criteria apply to be considered eligible to an *EMJDM scholarship*, in line with the *Erasmus+ Programme Guide*, the *Grant Agreement* and the *Administrative and Financial Handbook*.

The *EMJMD scholarships* attribution are validated by the *Academic and Management Board* conjointly to the selection outcomes. The *main list* published on the *Programme* website following the selection process must provide clearly for applicants who are awarded an *EMJMD scholarship*.

Without prejudice to academic excellence, *EMJDM scholarships* must be offered to *Students* by taking geographical balance into account, in accordance with the terms laid down in
the Practical Information on Grant Management in the EMJMD beneficiaries Space 2020 website.
, and notably;

a. A minimum of 75% of the *EMJMD scholarships* must be earmarked for *Students* from *Partner Countries* (i.e. a maximum of 25% of the *EMJMD scholarships* can be earmarked for *Students* from *Programme Countries*), and
b. No more than 3 candidates from the same country (/with the same nationality) should be awarded an *EMJMD scholarship* during the same intake.

To ensure that priority is given over academic excellence rather than adjustments toward compliance with geographic balance and notably the ratio *Partner/Programme Countries* at the end of the period of implementation of the *Grant Agreement*, the *Academic and Management Board* agrees to:

a. First and foremost assess and rank applicants in line with the selection criteria provided in article III.4.4. of the *Consortium Agreement* and without consideration of the countries of origin of the applicants;
b. Then adjust the attribution of *EMJMD scholarships* taking into account the geographical balance requirements in line with following principles:
    a. Adjustments must be made every intake (to minimize risk of non-compliance at the end of the period of implementation of the *Grant Agreement* and avoid allocation of *EMJMD scholarships* essentially on a geographic basis during the third intake);
    b. Selection outcomes only must be used to determine these adjustments and *Consortium scholarships* must be given in priority to best-ranked applicants that cannot receive an *EMJMD scholarship* due to geographic imbalance.

IV.3.1.2. RADMEP scholarships

RADMEP scholarships are granted for one (1) academic year.
The same selection criteria, method and decision-making for selection to the *Programme* will be applied to attribute *RADMEP scholarships* at the beginning of the first academic year of each intake.

Attribution of *RADMEP scholarships* for the second academic year of each intake will be based on *Student* performance during the first academic year (best ranking, on the basis of grades available at the time of the selection, and using the grading and calculation rules provided in article II.11. and providing that the *Student* has an average above B during the first academic year). RADMEP scholarship cannot be additional to EMJMD scholarship.

The *RADMEP scholarships* attribution are validated by the *Academic and Management Board* conjointly to the selection outcome. The reserve list published subsequent to the selection process on the *Programme* website must provide clearly for applicants who are awarded a *Consortium scholarship*.

Without prejudice to academic excellence, the *Academic and Management Board* may decide to earmark every intake a number of *Consortium scholarships* to applicants that are graduates of Higher Education Institutions acting as *Associated Academic Partners* of the *Consortium*.

IV.3.1.3. Fee-waiver

Fee-waivers are granted for two (2) academic years.
The same selection criteria, method and decision-making for selection to the *Programme* will be applied to attribute *Fee-waiver* at the beginning of the first academic year of each intake.

The *Fee-waiver* attribution is validated by the *Academic and Management Board* conjointly to the selection outcome. The reserve list published subsequent to the selection process on the *Programme* website must provide clearly for applicants who are awarded a *Fee-waiver*.

Without prejudice to academic excellence, the *Academic and Management Board* may decide to earmark every intake a number of *Fee-waiver* to applicants that are graduates of Higher Education Institutions acting as *Associated Academic Partners* of the *Consortium*.

IV.3.1.4. Management of scholarships attribution during intake selection

Considering that:

a. successful applicants may decide not to confirm their participation in the *Programme* if they don't receive substantial financial support during the period of their studies;
b. successful applicants who are awarded a scholarship may decide not to benefit from it to allow others applicants with lower financial means to join the *Programme* or are not able to join the *Programme* (e.g. for immigration issues).

The applicants must have, subsequent to the publication of the final selection outcomes by the *Academic and Management Board* on the *Programme* website, at least one (1) week to consider the outcome of the selection, assess their financial ability to join the *Programme* and confirm their participation in full knowledge.

Final adjustments to the main and reserve lists must be made in accordance to the terms laid out in article **III.6.1.1.4.** of the *Consortium Agreement* and upon confirmation in writing of the successful applicants and serve as the basis for the *Consortium* to send the final main and reserve lists to the *Agency* and allow the latter to notify successful *EMJMD scholarship* holders.

IV.3.1.5. Withdrawn of scholarships in case of weak capacity

Pursuant to article B. of the Practical Information on Grant Management in the EMJMD beneficiaries Space 2020 website, the Consortium put in place during the first month of the *Programme* a specific evaluation test that will allow to assess the Student's actual capacity, skills and/or levels of competences in some crucial areas (linguistic, academic, etc.) to efficiently follow the *Programme* with serious chances of graduation at the end of it.

If, after having been given a chance to re-sit, the *Student's* performance is still far below the *Consortium's* minimal performance requirements, the scholarship offer will be withdrawn.

IV.3.2. Scholarships grants management

IV.3.2.1. Amount granted

IV.3.2.1.1. EMJMD scholarships

Contribution to the participation costs	€ 9000 per year per scholarship holder from a Partner Country € 4.500 per year per scholarship holder from a Programme Country		
Contribution to the travel and installation costs	€ 1.000 per year per scholarship holder resident of a Programme Country for travel costs € 2.000 per year for travel costs + € 1.000 for installation costs for scholarship holder resident of a Partner Country whose location is situated at *less than 4.000 km* from the *Coordinating Institution*. € 3.000 per year for travel costs + € 1.000 for installation costs for scholarship holder resident of a Partner Country whose location is situated more than 4.000 km from the Coordinating *Institution*.		
Contribution to subsistence costs	€ 1.000 per month for the entire duration of the *Programme* (24 months). Contribution to subsistence costs will not be given during periods spent in their country of residence. Contribution to subsistence costs will not be given to partner country students during periods in excess of 3 months spent in a Partner Country.		
Total	**Programme country** € 35000 for the programme duration	**Partner country**	
		<4000 km € 47000 for the programme duration	**>4000 km** € 49000 for the programme duration

The legal basis and documentation that prevails for determining scholarships amount is the English version and latest version of the *Erasmus+ Programme Guide,* pages 101 (valid as of 05/11/2019) and section C. of the the Practical Information on Grant Management in the EMJMD beneficiaries Space 2020 website.

EMJDM Students from *Partner Countries* can spend Semester 4 in in a *Partner Country* (associated partner institutions only), under the direct supervision of one of the *Consortium partners* and only if this country is different from the student's country of origin; Periods in excess of 3 months or spent in the *Student* country of origin will not be covered by the *EMJMD scholarship*.

IV.3.2.1.2. Fee-waiver

Fee-waiver for 2022-2024 are set to 100% of the *Programme* Participation Costs.

IV.3.2.2. Scholarship disbursement

IV.3.2.2.1. EMJMD scholarships

EMJMD scholarships cover the entire duration of the *Programme* and are awarded exclusively for a full-time enrolment in one of the *Programme* intake. *EMJMD scholarships* disbursement are managed by the *Coordinating Institution* in accordance with the general principles indicated in sections C.3 of the Practical Information on Grant Management in the EMJMD beneficiaries Space 2020 website.

IV.3.2.2.2. Fee-waiver

Fee-waiver is directly applied to Participation Costs charged to Students at the beginning of each academic year.

	Students from Programme Country	*Students* from Partner Country
total Participation Costs (entire Programme, 4 semesters), with a Fee-waiver	€ 0,000	€ 0,000
Participation Costs for one academic year (2 semesters), with a Fee-waiver	€ 0,000	€ 0,000

IV.3.2.2.4. Payment timetable for 2022-2024 intake

scholarship type	comment	Payment date	09/2022	10/2022	11/2022	12/2022	01/2023	02/2023	03/2023	04/2023	05/2023	06/2023	07/2023	08/2023	09/2023	10/2023	11/2023	12/2023	01/2024	02/2024	03/2024	04/2024	05/2024	06/2024	07/2024	08/2024	**TOTAL PAID INTAKE**
RADMEP EMJMD scholarship holders from Programme countries	*Does not include the scholarship component (participation costs are directly withdrawn from the scholarship)*		2 000.00 €	1 000.00 €	1 000.00 €	1000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	2 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	1 000.00 €	**26 000.00 €**
RADMEP EMJMD scholarship holders from Partner countries situated at less than 4000 km from Saint Etienne	*Does not include the scholarship component (participation costs are directly withdrawn from the scholarship)*		4 000 €	1 000 €	1 000 €	1 000€	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	3 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	***29 000 €***
RADMEP EMJMD scholarship holders from Partner countries situated at more than 4000 km from Saint Etienne	*Does not include the scholarship component (participation costs are directly withdrawn from the scholarship)*		5 000 €	1 000 €	1 000 €	1 000€	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	4 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	1 000 €	***31 000 €***

IV.3.2.2.5. Notes on EMJMD scholarships disbursement

Amounts indicated here represents *EMJMD scholarships* depending on the *Student*'s country of residence. Amounts can vary between *Students* because the contribution to subsistence costs must:

a. neither be given to scholarship holders for the EMJMD periods (study /research /placement /thesis preparation) spent in their country of residence;
b. nor to *Partner Country* scholarship holders for the EMJMD periods exceeding three months (indicatively the equivalent of 15 ECTS credits) spent in any Partner Country.

The monthly allowance can only be paid as from the month of arrival of the student at *Coordinating Institution* and after formal enrolment to the unit. If students decide to voluntarily join the *Programme* at an earlier stage, then this period must not be considered as part of the *Programme* duration. This rule also applies to cases of late arrivals of students to the unit.

The contribution to travel and installation costs (details see in B.2 of the Practical Information on Grant Management in the EMJMD beneficiaries Space 2020 website) shall be paid in full to the student as follows:

a. Contribution to travel costs: the full amount for year 1 upon arrival of the *Student* at *University of Jyväskylä*, and the full amount for year 2 upon beginning of semester 3. The amount paid to the student for year 2 remains unaffected should the student drop-out or be expelled after the third semester and before graduation.
b. Contribution to installation costs shall be paid in full upon arrival of the *Student* at the *Coordinating Institution*.

The contribution to subsistence costs (i.e. monthly allowance for living costs – see B.3 of the Practical Information on Grant Management in the EMJMD beneficiaries Space 2020 website) must be paid in full to the students on a monthly basis and up to the maximum of 24 instalments.

ANNEX A. DEFINITIONS

Academic and Management Board shall mean the main governing body established under the *Consortium Agreement*, to resolve a variety of management issues in accordance with the terms laid down in article II.3.1 of the *Consortium Agreement*.

Agency shall mean the Education, Audiovisual and Culture Executive Agency entrusted with the implementation of programmes and activities on behalf of the European Commission the European Commission.

Associated Partners shall mean *Associated Academic Partners* and *Associated Industrial Partners.*

Associated Academic Partners shall mean any Higher Education Institution that contributes indirectly to the promotion, implementation, monitoring, evaluation activities and/or sustainable development of the *Programme* and who are signatory of this *Consortium Agreement*. Their expertise I called upon on an ad-hoc basis. In contrast to *Full Partners* (see definition below), *Associate Academic Partners* are not entitled to benefit directly from the *Grant Agreement*.

Associated Industrial Partners shall mean any socio- economic entity (i.e. commercial enterprises, public authorities or organizations, non-profit or charitable organizations, etc.) that contributes to the promotion, implementation, monitoring, evaluation activities and/or sustainable development of the *Programme* and who are signatory of this *Consortium Agreement*. In contrast to *Full Partners* (see definition below), *Associate Industrial Partners* are not entitled to benefit directly from the *Grant Agreement.*

Confidential information shall mean information which is to be treated as confidential by a *Full Partner* of *Associated Partner* due to contractual obligations with a third party or third parties.

Consortium Agreement shall mean the agreement governing the financial, technical managerial, academic, operational and administrative implementation of the Erasmus Mundus Joint Master Degree RADMEP : Radiation and its Effects on MicroElectronics and Photonics Technologies during the period of implementation of the Grant Agreement *to be updated* including all Annexes, signed by all *Full* and *Associated Partners* of the *Consortium* and available on the website of the *Programme*.

Consortium Members or ***the Consortium*** shall mean all parties associated to this *Consortium Agreement*, either *Full P*artners or *Associated Academic Partners* and *Associated Industrial Partners*.

Coordinating Institution: The *Coordinating Institution* is the organization responsible for the overall management of the project in the consortium. The *Coordinating Institution* acts as the main beneficiary in the contractual and financial relations between the consortium and Agency. Jean Monnet University is the Coordinating Institution. The Coordinating Institution have signed a multi-beneficiary *Grant Agreement* on behalf of the *Full Partners*.

Corporate Partners any socio- economic entity (i.e. commercial enterprises, public authorities or organizations, non-profit or charitable organizations, etc.) that contribute directly or indirectly to the *Programme* implementation. *Corporate Partners* may or may not be *Associated Industrial Partner.*

EMJMD student shall mean a student effectively enrolled in the *Programme*, registered at University Jean Monnet, and who is beneficiary of a *Joint Master Degree scholarship.*

Erasmus+ Programme Guide shall mean the "guidelines" published for beneficiaries of the Erasmus+: KA1 Higher Education Erasmus Mundus Joint Master Degree action of the European Commission, version 2 (2017): 20/01/2017.

Full Partners shall mean signatory of the *General Conditions* and *Special Conditions* of this *Consortium Agreement* and beneficiaries of the *Grant Agreement*. *Full Partner*s are European degree-awarding Higher Education Institutions recognized as such by the relevant authorities of the country in which they are established and contribute actively to the preparation, implementation and evaluation of the *Programme*. Each *Full Partner* signed a mandate by which the signatory grants power of attorney to the *Coordinating Institution* to act in his name and on his account during the implementation of the project.

Host Institution shall mean the institution which is either a *Full Partner* (during the 3 first semester) or *Associated Partner* (during semester 4) where the student will reside during the *Programme* for completion of one semester.

Learning outcomes shall mean significant and essential learning that learners have achieved, and can reliably demonstrate at the end of the *Programme*, notably in terms of knowledge and skills needed by the *Programme*'s *Corporate Partners* in the perspective of better employability of the *Student*.

Local University Tuition Fee fees shall mean any fees that *Student* registered in the *Programme* have to pay to the *Hosting Institution* where they are enrolled or following unit modules, including the Master Thesis and work placement. The cost to these local university tuition fees shall be accounted in the *Participation Costs* of the *Programme*.

Mobility shall mean physical mobility of a *Student*, teaching or academic staff from a hosting institution to another.

Mobility scheme shall mean learning path embedded in the *Programme*, including options that can be made by the *Student* and international travel needed to ensure full participation to the *Programme*.

Programme shall mean the Joint Master Degree course RADMEP (Radiation and its Effects on MicroElectronics and Photonics Technologies') and include all administrative, academic activities and development projects supporting its implementation and sustainability.

Quality Assurance Board shall mean the board established under this *Consortium Agreement* to resolve a variety of quality assurance issues in accordance with the terms laid down in article II.3.2. of the *Consortium Agreement*..

RADMEP shall mean 'Radiation and its Effects on MicroElectronics and Photonics Technologies' and is the name of the Erasmus+ Erasmus Mundus Joint Master Degree for which this *Consortium Agreement* is established.

Self-financed student shall mean a *Student* effectively enrolled in the *Programme*, registered at University Jean Monnet, but who did not benefit from a EMJMD scholarship nor benefit from a scholarship directly managed by the *Coordinating Institution*.

Student/s shall mean individual that are effectively (administratively and academically) registered in the *Programme* in view of a graduation, i.e. individual that are at least registered in University Jean Monnet Saint Etienne. *Students* include *EMJMD students* and *Self-financed students.*

Student Agreement shall mean the contract signed between a *Student* following her/his enrolment in the *Programme* and the *Coordinating Institution* on behalf of all *Full Partners*. It aims to ensure the proper participation of the *Student* in the *Programme* activities and guarantee adequate transparency of the *Programme* participation rules by defining both the *Full Partners* and *Student*'s rights and obligations in relation to her/his Master units studies.

Supporting Partners shall mean any private or public institution that contributes indirectly to the promotion, implementation, monitoring, evaluation activities and/or sustainable development the *Programme* but who does not wish to enter in this *Consortium Agreement*. Their role and duties are defined, when applicable, in separate and specific arrangements. A list of supporting institutions can be found on the *Programme* website.

ANNEX B. TEMPLATE OF SETTLEMENT LETTER

2022-2024 INTAKE - APPEAL PROCEDURE FOR STUDENTS

This is to inform the Students on appeal procedure following any decision taken by the RADMEP governing bodies (Academic and Management Board, Quality Assurance Board) collectively or their members individually (Academic Coordinator and Local Academic Coordinator, Administrative Coordinator and Local Administrative Coordinators) or faculty members, including but not limited to:

a. Performance assessment (grades), grading system (calculation, averaging), semester and diploma completion;
b. Mobility option for Semester 3;
c. Master Thesis validation and evaluation;
d. Scholarships attribution and management.

Important notes:

The RADMEP Academic & Management Board is primarily responsible for conflict cases settlement. The Education, Audiovisual and Culture Executive Agency should not be contacted directly by the student alone, but rather by the Consortium if the conflict, despite the appeal decision, is not resolved.

If problem cases arise related to quality of academic or administrative services, the Student is advised to first seek clarification to Local Academic and Administrative Coordinators, then Academic Coordinator. If the issue is not solved, the student may inform her/his student delegate.

The procedure to lodge a complaint for 2022-2024f intake is set as follows:

1. If the Student does not agree with decisions issued by RADMEP governing bodies or members, then s/he may appeal this decision before the RADMEP Quality and Assurance Board.

2. In order to be valid, the appeal must be in writing, using following letter of settlement template (page 2 of this document) signed and dated, and send (in .pdf format) by the applicant to the attention of:

Prof. Sylvain Girard, Head of RADMEP Academic & Management Board and Academic Coordinator.
sylvain.girard@univ-st-etienne.fr

3. The complaint must be transmitted to the Quality Assurance Board within ten (10) days following the notification of the complaint.

4. The appeal should set out fully the grounds upon which it disputes the challenged decision, together with copies of any relevant supporting documents or justifications upon which it relies. The grounds of the appeal must be based on new elements or facts which were not taken into consideration when the decision was originally analyzed. It should be noted that the Quality Assurance Board may reject an appeal which is not submitted within a thirty (30) days period after the decision has been taken or which does not contain the necessary justifications or documentation.

5. The Quality Assurance Board will examine every appeal, either physically or virtually. The board can decide or not to ask the governing body or any member or academic and administrative staff to reassess and reconsider the/ir decision/s or to deny the appeal procedure after close examination of the Student's pleas.

6. The Student will be informed of the appeal decision of the Quality Assurance Board by a written instrument within thirty (30) days following after date of reception of the letter of settlement

LETTER OF SETTLEMENT

CHALLENGED DECISION OR COMPLAINT *(Specify the type of decision against which you are appealing or describe in one sentence the problem faced)*	
DESCRIPTION OF SUPPORT DOCUMENTS ENCLOSED *(Include any documentation required needed to substantiate your claims)*	
STATE THE GROUNDS FOR YOUR APPEAL *(Statement of the material facts and all the necessary corroborative evidence to support your plaint. Be factual, specific and brief. Please indicate, without prejudice, what outcome or further action you are expecting)*	

I am writing to appeal against a decision from RADMEP governing bodies or to lodge a complaint.
I certify the information on this letter of settlement, and any supporting documentation are accurate, true, and complete to the best of my knowledge.

Sincerely,

FAMILY NAME

GIVEN NAME/S

DATE

SIGNATURE

ANNEX C. UNIT MODULE SYLLABUS TEMPLATE

FYSS6405 APPLIED SEMICONDUCTOR PHYSICS (5 CR)

Open the course unit brochure on Sisu

Study level:

Advanced studies

Grading scale:

0-5

Language:

English, Finnish

Responsible organisation:

Department of Physics

Curriculum periods:

2020-2021, 2021-2022, 2022-2023

Description

- Charge carriers in semiconductors
- energy band diagram, Fermi-level, density of states
- motion of charge carriers, drift and diffusion, thermal generation

- pn-junction and metal-semiconductor junction; bipolar transistor and its properties
- MOS capacitor
- MOS transistor and its properties
- CMOS technology and integrated circuits
- processing of IC components

- most important fabrication and characterization techniques

Learning outcomes

At the end of this course, student will be able to

- name and explain the basic concepts of semiconductor physics, such as energy band model, types of charge carriers, carrier mobility, energy band gap and Fermi-level
- describe and apply pn and metal-semiconductor junction properties (rectifying) and calculate the electrical properties of these junctions from the properties of the corresponding materials (doping concentration etc.).
- describe and apply electrical properties of a metal-oxide-semiconductor (MOS) structure, based on metal-semiconductor junction
- calculate on this basis the electrical properties of a MOSFET transistor
- describe and explain the most important steps of CMOS processing and the most important processing techniques used

- describe and comment the current state of development of integrated circuit industry (Moore's law), and assess the near-future trends and draw conclusions on the most critical developments

Description of prerequisites

FYSS6301 Electronics, part A

Study materials
Lecture notes

Literature

- Chenming Calvin Hu, Modern Semiconductor Devices for Integrated Circuits, ISBN 978-0-13-608525-6; ISBN: 978-0-13-608525-6

Completion methods
Method 1
Description:

Given every two years.

Evaluation criteria:

At least half of maximum points required for passing, for example 80% exam and 20% exercises.

Time of teaching:

Period 2

Select all marked parts

Method 2
Description:

This completion method is intended for students for whom method 1 is not possible for specific reasons (e.g. language, living elsewhere). Contact the teacher before enrolling to the course via this completion method.

Evaluation criteria:

Exam 100%

Select all marked parts

Parts of the completion methods

x

Teaching (5 cr)
Type:

Participation in teaching

Grading scale:

0-5

Evaluation criteria:

At least half of maximum points required for passing, for example 80% exam and 20% exercises.

Language:

English, Finnish

Study methods:

Lectures, exercises, laboratory demos, exam.

Teaching
10/26–12/14/2020 Lectures
Enrolment closedTeaching ended

12/18–12/18/2020 Final exam
Enrolment closedTeaching ended

x

Independent study (5 cr)
Type:

Independent study

Grading scale:

0-5

Evaluation criteria:

Exam

Language:

English, Finnish

Study methods: Self-study and exam.

ANNEX D. LEARNING OUTCOMES AND CURRICULUM DESIGN

These guidelines are designed to **build a common understanding between RADMEP programme stakeholders** (students, teaching staff, employers…) **regarding the use of learning outcomes**, help RADMEP teaching staff and scholars and academic coordinators write programme / semester / unit module learning outcomes (introduce the terminology and demonstrate how main descriptive structure should interrelate) and give students context on the learning design rationale behind the expected learning outcomes, based mainly on UK's Quality Assurance Agency subject benchmarks and project specification.

What are Learning Outcomes?

Learning outcomes are the specific intentions of a programme, unit or teaching session. They describe what a student should know, understand, or be able to do at the end of a programme, unit or teaching session. In other words, **they are statements of the things students can reasonably expect to know or be able to do by the end of a programme, course or unit**, reflecting a shift from the teaching content of a programme to a more student-centered approach in education.
The greater the synergy between learning outcomes, teaching strategies and assessment techniques, the more successful the learning process is likely to be.

BENEFITS FOR STUDENTS
> help students to choose the programmes and units that they want
> help to guide students in their learning in that they explain what is expected of them
> help students to construct an effective personalized learning strategy

BENEFITS FOR TEACHING STAFF
> help teaching staff to focus on exactly what they want students to achieve in terms of both knowledge and skills
> Allow teaching staff to apply the most effective teaching methods to achieve these ends

BENEFITS FOR EMPLOYERS
> provide a practical guide to potential candidates and employers about the general knowledge, understanding and skills that a graduate will possess

Understanding and writing Learning Outcomes

A DEFINITION
A module learning outcome describes the overall skills and knowledge students are expected to reach cumulatively by the end of a unit. Unit learning outcomes are taught and assessed both directly and indirectly through various activities across numerous teaching sessions and contexts.

CURRICULUM ALIGNMENT
A module design should show a clear alignment between its learning outcomes and its assessment criteria. In turn this requires one to design appropriate assessment tasks, and to deliver the module in a way which enables students to reach the required outcomes. This **alignment between learning outcomes, learning and teaching methods, assessment tasks and assessment criteria** makes the whole process transparent to the students and to other stakeholders. This helps to ensure that modules are coherently designed.

To ensure this curriculum alignment, an educator can consider the following before writing learning outcomes:
1. What specifically should students be able to do or know when they have completed a programme, unit or teaching session?
2. How will one be able to measure or assess whether students have achieved these outcomes?
3. If one takes into account the students' pre-existing knowledge and skills, are these outcomes realistically achievable within the timeframe of the programme, unit or teaching session?
4. What learning and teaching activities will help the students achieve these outcomes by the end of the programme, unit or teaching session?

DIFFERENCE BETWEEN LEARNING OUTCOMES AND AIMS
The difference between learning outcomes and aims is that aims are written in terms of teaching intention and indicate what it is that the teacher intends to cover in the block of learning (curriculum coverage). Learning outcomes are descriptions of what the learner is expected to learn in the period of learning defined. They should imply the standard of learning expected. Aims are therefore more about teaching and the management of learning, and learning outcomes are more about learning. An aim can be a statement of general teaching intention and coverage as well as indicating the content of the module and its relationship to other learning or the whole programme

WORDING
A well-written learning outcome should be "**SMART": Specific, Measurable, Achievable, Realistic, Time framed, clearly written so that they are understood by students, colleagues, external examiners and other stakeholders.**

Learning outcomes are usually prefaced by the standard phrase:
"On completion of this programme/ unit */module the student should be able to…"*
And followed by:
1. measurable and assessable action verb that indicates what the learner is expected to be able to do at the end of the period of learning, such as: *analyse, apply, calculate, criticize, demonstrate, describe, design, discuss, develop, evaluate, explain, perform, state, use, etc.* (One should avoid verbs such as 'understand' or 'appreciate' or 'realise' as these are difficult to directly observe, measure or assess.);
2. Word(s) that indicate on what or with what the learner is acting. If the outcome is about skills then the word(s) may describe the way the skill is performed

Example of learning outcomes:
"At the end of the module, the learner is expected to be able to:
- perform correctly calculations on wave functions and in the solution of the Schroedinger equation for a range of one-dimensional problems;
- describe and explain the function of the basic devices of optoelectronics; optical fibres; liquid crystal displays; bi-polar and surface field effect transistors and MOS light emitting diodes."

USE OF TAXONOMIES
These taxonomies are the type of outcomes that are useful in writing learning outcomes. These taxonomies / descriptors generally provide more than classification schemes for outcomes; they also give examples of each kind of outcome. However, no hierarchy is intended. We suggest to align to the widely used SEEC descriptor forma for Masters level: (skills and knowledge) are listed under a number of headings:
1. Development of knowledge and understanding (subject specific);
2. Cognitive / Intellectual skills;

3. Key/ transferable skills;
4. Practical skills.

DEVELOPMENT OF KNOWLEDGE AND UNDERSTANDING (SUBJECT SPECIFIC)	The Learner: • Knowledge base: has depth and systematic understanding of knowledge in specialised / applied areas and / across areas and can work with theoretical / research-based knowledge at the forefront of their academic discipline • Ethical issues: has the awareness and ability to manage the implications of ethical dilemmas and work proactively with others to formulate solutions • Disciplinary methodologies: has a comprehensive understanding of techniques / methodologies applicable to their own work (theory or research-based).
COGNITIVE/INTELLECTUAL SKILLS (GENERIC)	• Analysis: with critical awareness can undertake analysis of complex, incomplete or contradictory areas of knowledge communicating the outcome effectively • Synthesis: with critical awareness, can synthesise information in a manner that may be innovative, utilising knowledge or processes from the forefront of their discipline / practice • Evaluation: has a level of conceptual understanding that will allow her/him critically to evaluate research, advanced scholarship and methodologies and argue alternative approaches • Application: can demonstrate self-direction and originality in problem solving. Can act autonomously in planning and implementing tasks at a professional or equivalent level
KEY/TRANSFERABLE SKILLS (GENERIC)	• Group working: can work effectively with a group as leader or member. Can clarify tasks and make appropriate use of the capacities of group members. Is able to negotiate and handle conflict with confidence • Learning resources: is able to use full range of learning resources • Self-evaluation: is reflective on own and others' functioning in order to improve practice • Management of information: can competently undertake research tasks with minimum guidance • Autonomy: is independent and self-critical learner, guiding the learning of others • Communications: can engage confidently in academic and professional communication with others, reporting on action clearly, autonomously and competently • Problem solving: has independent learning ability required for continuing professional study, making professional use of others where appropriate
PRACTICAL SKILLS (SUBJECT SPECIFIC)	• Application of skills: can operate in complex and unpredictable possibly specialised contexts, and has an overview of the issues governing good practices; • Autonomy in skill use: is able to exercise initiative and personal responsibility in professional practice; • Technical expertise: has technical expertise, performs smoothly with precision and effectiveness; can adapt skills and design or develop new skills or procedures for new situations.
LEARNING OUTCOMES AND ASSESSMENT TASKS AND ASSESSMENT CRITERIA	Learning outcomes are statements of essential learning they are written at minimum acceptable or threshold (pass / fail) standard. Grading is a separate operation from passing or failing to pass a learning outcome. RADMEP instructors are advised

A. COGNITIVE involves thought processes, e.g. understanding, analyzing, evaluating. In simple terms, this is what it means to be able to operate at each level of the cognitive domain:
1) Knowledge: you know something;
2) Comprehension: you understand what you know;
3) Application: you can take something from one context and use it in another;
4) Analysis: you can break something down;
5) Synthesis: you can create something new as a result of analysis;
6) Evaluation: you can pass judgment on something;

B. AFFECTIVE involves attitudes, feelings and values, e.g. appreciating, accepting. The affective domain is concerned with issues relating to the emotional component of learning and ranges from the basic willingness to receive information to the integration of values, ideas and attitudes.

C. PSYCHOMOTOR involves physical skills involving coordination of the brain and muscular activity, and can be applied in areas like laboratory science subjects or engineering: 1) performing, 2) assembling, and 3) dismantling.

The following words are organized for convenience under headings that might be seen to accord with those from Bloom's taxonomy. However, no hierarchy is intended. The words are simply a vocabulary list gleaned from a variety of sources.

ACTIVITIES GIVING EVIDENCE OF KNOWING	Define, describe, identify, label, list, name, outline, reproduce, recall, select, state, present, be aware of, extract, organize, recount, write, recognize, measure, underline, repeat, relate, know, and match.
ACTIVITIES GIVING EVIDENCE OF COMPREHENSION	Interpret, translate, estimate, justify, comprehend, convert, clarify, defend, distinguish, explain, extend, generalise, exemplify, give examples of, infer, paraphrase, predict, rewrite, summarise, discuss, perform, report, present, restate, identify, illustrate, indicate, find , select, understand, represent, name, formulate, judge, contrast, translate, classify, express, compare.
ACTIVITIES GIVING EVIDENCE OF KNOWLEDGE / UNDERSTANDING	Apply, solve, construct, demonstrate, change, compute, discover, manipulate, modify, operate, predict, prepare, produce, relate, show, use, give examples, exemplify, draw (up), select, explain how, find, choose, assess, practice, operate, illustrate, verify.
ACTIVITIES GIVING EVIDENCE OF ANALYSIS	Recognise, distinguish between, evaluate, analyse, break down., differentiate, identify, illustrate how, infer, outline, point out, relate, select, separate, divide, subdivide, compare, contrast, justify, resolve, devote, examine, conclude, criticise, question, diagnose, identify, categorise, point out, elucidate.
ACTIVITIES GIVING EVIDENCE OF SYNTHESIS	Propose, present, structure, integrate, formulate, teach, develop, combine, compile, compose, create, devise, design, explain, generate, modify, organize, plan, re-arrange, reconstruct, relate, re-organise, revise, write, summarise, tell, account for, restate, report, alter, argue, order, select, manage, generalise, precis, derive, conclude, build up, engender, synthesise, put together, suggest, enlarge.
ACTIVITIES GIVING EVIDENCE OF EVALUATION	Judge, appraise, assess, conclude, compare, contrast, describe how, criticise, discriminate, justify, defend, evaluate, rate, determine, choose, value, question.
ASSESSMENT CRITERION	It is a statement that prescribes with greater precision than a learning outcome, the quality of performance that will show that the student has reached a particular standard. The standard may be the threshold that is described by the learning outcome or the standard that is required in order to gain a particular grade. In either type of assessment criterion, there needs to be some sort of statement either of what the learner will do or a reference to the quality of the work that will be evident in the task in order to meet the criteria for success in the task.

ANNEX E. LEARNING OUTCOMES ASSESSMENT MATRIX BY INSTRUCTOR

XXX (same than syllabus)

5 ECTS **XX semester XX**

Course instructor: Prof. XX
Language of instruction: XX

OVERARCHING GOAL (broad, generalized statements about what is to be learned)	DESIRED LEARNING OUTCOME (narrow, specific statements about concrete, measurable skills or content to be gained in the unit)	TEACHING METHODS (teaching strategies aimed at building desired knowledge or skills)	ASSESSMENTS (tools and strategies that analyze student performance and products as evidence of teaching effectiveness)
• Introduction to basic concepts on "Light, Vision, Radiometry and Photometry" (Topic 1)	• Ability to understand the fundamentals • Ability to self-learn, why several radiometric and photometric quantities have been defined	• Lecture on Topic 1 • Exercises	• Do exercises during 1st exercise session
• Introduction to basic concepts on "Colour Vision and Colour Specification Systems" (Topic 2)	• Ability to understand the fundamentals • Ability to apply concepts introduced on a practical study case	• Lecture on Topic 2 • Exercises and Lab session 1	• Do exercises during 2st exercise session • Do lab session 1 and submit a report
• Introduction to basic concepts on "Measurement and Calculation of Colorimetric Values" (Topic 3)	• Ability to understand the fundamentals • Ability to apply concepts introduced on a practical study case	• Lecture on Topic 3 • Exercises and Lab session 2	• Do exercises during 3rd exercise session • Do lab session 2 and submit a report
• Introduction to basic concepts on "CIE Standard Colorimetric System and Uniform Colour Spaces" (Topic 4)	• Ability to learn new knowledge, to understand the basics introduced, how and why they have been implemented; • Ability to self-learn, why some colour space may solve some problems meanwhile for other applications these colour spaces cannot be used; • Ability to express clearly, to exchange with others, to interact with others, to work with a team; • Ability to apply/implement principles introduced on a practical study case	• Read book chapter/reports provided before lecture on Topic 4. • Understand the main problems reported and the solutions proposed. • Present the main properties of each colour space and discuss how to categorize colour spaces and why some can be used in some application meanwhile others cannot be used; • Exercises and Lab session 3	• Answer to questions asked during lecture • Do exercises during 4th exercise session • Do lab session 3 and submit a report
• Introduction to basic concepts on "Chromatic Adaptation and Colour Appearance" (Topic 5)	• Ability to learn new knowledge, to understand the basics introduced, how and why they have been implemented; • Ability to self-learn, why some colour appearance models (CAM) may solve some problems meanwhile for other applications these CAM are inefficient; • Ability to express clearly, to exchange with others, to interact with others, to work with a team; • Ability to apply/implement principles introduced on a practical study case	• Read book chapter/reports provided before lecture on Topic 5. • Understand the main problems reported and the solutions proposed. • Present the main properties of each colour appearance model and discuss why some CAM can be used in some application meanwhile others cannot be used; • Exercises and Lab session 4	• Answer to questions asked during lecture • Do exercises during 5th exercise session • Do lab session 4 and submit a report

ANNEX F. QUALITY POLICY – LEARNING DIARY #1 SELF-EVALUATION BY THE STUDENT

This self-evaluation questionnaire will be used during mentoring session to discuss your progress and difficulties with your personal tutor. The aim of the mentoring sessions and of this questionnaire is not to blame students for anything that went wrong, but instead to try to identity why things worked or didn't work.

Please read carefully the questions. To answer, please mark the numbered box that most accurately reflects the extent to which you **AGREE** or **DISAGREE** with the statements, questions, etc. You may choose from a scale where 1 means that you strongly disagree (or very low opinion) with the statement and 5 means you strongly agree (or very good opinion).Please answer all the questions below.

Name of the faculty advisor: **Name of the student:** **Education period (Dates):**					
	Disagree				**Agree**
Q.1. There is a lot of pressure on me as a student of an Erasmus+ Programme	1	2	3	4	5
Q.2. I have real difficulties in some units because my background is not sufficient or lower than the level of these units	1	2	3	4	5
Q.3. I have real difficulties in some units because too much lecture/exercise/lab. sessions are planned each week, so we haven't enough time to do homework	1	2	3	4	5
Q.4. I have a clear idea of where I am going to and what is expected of me in this master programme	1	2	3	4	5
Q.5. I feel I benefit from being in contact with people from different countries and cultures	1	2	3	4	5
Q.8. I have difficulties because I am in a foreign country but I make real efforts to face these difficulties by myself	1	2	3	4	5

Self-evaluation forms, teaching evaluation forms, and mentoring session's reports are the three key elements of student's learning diary process.

ANNEX G. QUALITY POLICY – LEARNING DIARY #2

This survey is part of the RADMEP consortium's efforts to ensure it provides an education of the highest quality.

- THIS QUESTIONNAIRE IS ANONYMOUS AND CONFIDENTIAL. There are no right or wrong answers. We are only interested in knowing your opinion because it is really important for us.
- Please read carefully the questions. To answer, please mark the numbered box that most accurately reflects the extent to which you feel confident with the statements, generic competencies, etc. listed. You may choose a mark from a scale where 1 means that you think your skills are clearly unsufficient with the statement, and 7 means that you think your skills and knowledge fit very well with the general competencies mentioned.

MASTER – very confident -	7	🙂🙂
PROFICIENT – good skills and knowledge (above the average) but still some progress may be done	6	🙂
PRACTICED – confident but conscious that a number of notable errors could be done	5	
EMERGENT - fair but with significant shortcomings	4	😐
INTRODUCTORY – skills and knowledge meet the minimum criteria	3	
UNSUFFICIENT - some more work is required	2	☹
CLEARLY UNSUFFICIENT - considerable further work is required	1	☹☹

Name of the module	**Name of the student:**					
Unit instructor(s)	**Education period (Dates)**					
A. What am I trying to do exactly?	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
To develop my knowledge.						
To develop my skills and competencies.						
To progress in a way to accomplish assignment goals with the minimum of errors.						
To get good scores to exam(s) and practical sessions.						
To progress towards achievement of the learning outcomes of this module.						
To become an expert in the field.						
Comments:						
B. What went well, or less well, and why?	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
Knowledge and *Comprehension* of the fundamentals, principles, applications, limits, relationships, of all concepts and topics covered by this unit.						
Comprehension of the usefulness of the module and of its structure (and of each of its topics), and of the relationships with other modules.						
Application, *Analysis*, *Synthesis* and *Evaluation* skills of the main concepts and topics covered by this unit.						
Decision making. Ability to apply/implement concepts and principles introduced in the lectures on practical tasks and on industrial study cases.						
Problem solving. Ability to self-learn, to understand some problems and to suggest/find solutions to solve these problems.						
Ability to identify data sources, to use data sources, and to provide additional information to the sources.						
Team working. Ability to work with a team, to share my ideas, to listen and value other's ideas.						

Communication. Ability to express myself clearly, to exchange with others, to write a report.						
Quality of personal work (e.g. in doing assignment, without reminder from the instructor). Ability to interact with others under pressure, to overcome stress.						
Comments:						
C. How could I do better next time	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
Manage my time properly (homeworks, projects, learning, training, etc.) or make alternative arrangements.						
Manage my tasks (reports, lab sessions, etc.) properly (accurately and completely, without any plagiarism).						
Participate in an active way to team works (e.g. help others with their work when needed), group discussions, exchanges with the module instructor.						
Learn by myself (from books, tutorials, etc.) to further my understanding, my knowledge.						
Practice by myself (by doing exercises, by implementing algorithms, etc.) to further my understanding and develop my analytical skills.						
Find by myself the solution to the problems I am facing (e.g. by asking appropriate questions to the module instructor, by studying technical papers, etc.) or I have to work on.						
Contribute (individual role) to increase the efficiency and the quality of my group/team members.						
Increase the consideration of other students and of instructors to my work.						
Comments:						

Please fill this questionnaire after each session (topic) which is designed specifically for you, the students, to self-evaluate your progress, use this self-evaluation questionnaire (during mentoring session) to discuss your progress and difficulties with your personal tutor. The aim of these mentoring sessions and of this questionnaire is not to blame students for anything that went wrong, but instead to try to identity why things worked or didn't work.

By filling this self-evaluation form and other self-evaluation forms students develop transversal skills. They learn how to learn, and become more aware of the best study modes for their personal learning style. These skills are essential in the current work life.

Self-evaluation forms, teachings evaluation forms, and mentoring session's reports are the three key elements of student's learning diary process.

ANNEX H. QUALITY POLICY – UNIT MODULE ASSESSMENT BY THE STUDENT

This survey is part of the RADMEP consortium's efforts to ensure it provides an education of the highest quality.

- THIS QUESTIONNAIRE IS ANONYMOUS AND CONFIDENTIAL. There are no right or wrong answers. We are only interested in knowing your opinion because it is really important for us.
- Please read carefully the questions. To answer, please mark the numbered box that most accurately reflects the extent to which you AGREE  or DISAGREE  with the statements, questions, etc. You may choose from a scale where 1 means that you strongly disagree (or very low opinion or poor quality) with the statement and 5 means you strongly agree (or very good opinion or excellent quality).
- Please answer all the questions below.

Name of the module:	
Unit instructor(s)	**Education period (Dates)**

A. Module content					
Q1. Did you find the module content satisfactory in terms of practical work?	1	2	3	4	5
Q2. Do you think that the quality of teaching material is satisfactory?	1	2	3	4	5
Q3. Do you think that the quality of material used for practical sessions is satisfactory?	1	2	3	4	5
Q4. Did you find the module content interesting? Did it contribute to increase your motivation and participation?	1	2	3	4	5
Q5. Do you think that the module content is appropriate with regards to the learning outcomes defined?	1	2	3	4	5
Comments:					
B. Organisation					
Q6. Was the module organisation (deadlines, objectives, assessment criterias, etc.) clearly explained to you?	1	2	3	4	5
Q7. Was the module (deadlines, objectives, assessment criterias, etc.) organised as defined?	1	2	3	4	5
Q8. Were the lectures and learning activities well organised?	1	2	3	4	5
Q9. Were the practical activities and lab sessions well organised?	1	2	3	4	5
Q10. Did you have access to all the teaching material (docs, slides, etc.)?	1	2	3	4	5
Q11. Did you find the duration (the speed) of the module was appropriated?	1	2	3	4	5
Q12. Did you have enough time to do homework and to learn by yourself?	1	2	3	4	5
Q13. Did you think that the time schedule of this unit was too dense to do homework, to learn by yourself?	1	2	3	4	5
Q14. Did you have enough time to prepare exam(s) and lab session reports?	1	2	3	4	5
Comments:					
C. Delivery					
Q15. Do you feel that the module instructor(s) felt confident with the topic?	1	2	3	4	5
Q16. Did you have enough time during lectures/lab sessions activities to ask questions to the module instructor and to discuss with him/her issues related to the lectures/lab sessions subject?	1	2	3	4	5
Q17. Do you think that the module instructor(s) contributed efficiently to make this module helpful and interesting?	1	2	3	4	5
Comments:					
D. Other comments and suggestions					
On average, how many hours have you spent on this module outside time table hours? What activities did you do (homework, learning, etc.)?					
Have you any suggestions on how we could improve the quality of this module? Please let us have your positive or negative comments about this course.					

Thank you for your collaboration. Please return this questionnaire before the xxx to your individual tutor.