

Faculty of Faculty of Civil and Industrial Engineering
Faculty of Engineering, Computer Science and Statistics

ACADEMIC YEAR 2014/2015

InterFaculty SECOND LEVEL MASTER COURSE IN

"Optics and Quantum Information "

DIRECTOR : C. Sibilio

study course code : 16124

THE RECTOR

CONSIDERING law no. 341 of 19 November 1990;

CONSIDERING the Ministerial Decree October 22, 2004 n . 270;

HAVING REGARD to Articles 3 , 5 , 18 and 19 of the University Academic Regulations (first part) issued with DR n . 000 547 of 3 June 2008 ;

CONSIDERING the regulations for the establishment , implementation and management of the University Masters , courses of Higher Education and Training issued with DR n . 000 502 of 20 May 2010 ;

CONSIDERING the resolution of the Academic Senate of May 17, 2011 by which the Master has been established ;

CONSIDERING the resolution of the Academic Senate of 14 May 2014 which was approved the provision of training for the academic year . 2014/2015

DECREE

activation , for the academic year 2014/2015 , the Inter- University Master 's degree in " Optics and Quantum Information " at the Faculty of Civil and Industrial Engineering and LA School of Engineering , Computer Science and Statistics, University of Rome " La Sapienza " .

1 – Purpose

The goal of the course is to provide real technical skills to students, even within the Armed Forces. Main purpose of the contents and methods taught in the Master 's is in the training of students who , after participating in the Master , can enter the working world with a wealth of technical knowledge and practices of high profile internationally .

The Master course is aimed at those interested in developing a real professional in the field of innovative technologies related to optics, photonics and quantum information processing and transmission through innovative techniques for secure communication, such as quantum cryptography.

For the courses and for the organization of training activities, the Master uses:

- a) the educational and scientific expertise in the fields of basic and applied disciplines related to the objectives of the Master , in the Faculty of Civil and Industrial Engineering and the Faculty of Engineering, Computer Science and Statistics of the ' University of Rome " La Sapienza";
- b) the specific contributions of experts and professionals of proven and documented experience that conduct their business in public and private research facilities , and the bodies in charge of the study of physics, optics and laser applications resulting in the security of ' information .

2 - Organization training activities

The course is conducted in English and Italian

The training is equal to 1500 hours of study, of which at least 300 hours worked in the classroom lessons and 150 hours allocated to the final round .

The remaining hours , will be used for the following courses: laboratory , workshops and seminars .

The annual teaching of the Master is divided into modules , providing arguments in line with objectives aimed at developing specific professional profiles taking into account their constant evolution .

Below are the number of credits assigned to each educational activity :

Activities	Credits
Activity	
Modul 1 (Optica/Optics) <i>Fundamentals of geometrical optics. Optical waves. Polarization, diffraction, interference. Refractive index. Anisotropic and non homogeneous media. Gaussian beams, Bessel beams, Laguerre Gauss beams. Singular Optics. Spectroscopy.</i>	3
Modul 2 (Nonlinear Optics) <i>Origin of the nonlinear optical response of materials. Nonlinear Polarization. Second and third order polarization. Parametric effects. Nonlinear refractive index, focusing and defocusing of light</i>	3
Modul 3 (Laser- Quantum electronics) <i>Basics of solid state physics - Plasmonics- Basics of light matter interaction. Lasers: c.w. pulsed, optical parametric oscillators- Q dots, photonics crystal lasers, nano-lasers, integrated emitters including optical nonlinear emitters. In/out coupling of radiation.</i>	5
Modul 4 (Optoelectronic Devices) <i>III-V Semiconductors and compounds, homojunctions, heterojunctions, double-heterostructures, single- and multi- quantum wells. Semiconductor junction photodetectors: pn, pin, avalanche photodiodes, single photon</i>	3

<p><i>avalanche diodes. Detection noise, signal-to-noise ratio, sensitivity, bit error rate (BER) and Q in optical photodetectors. Quantum limit of photodetection. Fiber optics: structures, electromagnetic propagation, modal, chromatic and polarization dispersion, power loss, nonlinear optical effects. Optical amplifiers: saturation, bandwidth, noise figure, semiconductor and erbium doped fiber amplifiers. Optical waveguides in organic and inorganic dielectrics. Directional couplers, X and Y junctions, integrated optics interferometers. Electro-optic and acousto-optic modulators. Optical logic gates.</i></p>	
<p>Modul 5 (Information Theory)</p> <p><i>Review of probability theory, random variables, stochastic processes, stationarity and ergodicity, examples: Gaussian processes and Markov chains – Shannon, Renyi and Von Neumann entropies, relative entropy, Kullback Leibler distance, mutual information, sufficient statistics, Fano's inequality, Shannon theorem on source coding, Kraft inequality, Huffman codes – Channel capacity, Shannon theorem on channel coding, examples: capacity of binary symmetric channel; capacity of Gaussian channel – Fundamentals of rate-distortion theory, maximum entropy principle</i></p>	3
<p>Modul 6 (Informazione quantistica I/ Quantum information I)</p> <p><i>Classical Electrodynamics: fundamental equations and dynamical variables. Quantum Electrodynamics in the Coulomb Gauge: general framework, time evolution, observables and states of the quantized free field, the Hamiltonian for the Interaction between particles and field. Coherent interaction: two state dynamics, Jaynes-Cummings model. Quantum Statistics of the field. Dissipative processes. Dressed states.</i></p>	5
<p>Modul 7 (Quantum Information II)</p> <p><i>Finite-Dimensional Hilbert Spaces: Quantum bits, Multiple qubits, Quantum Tomography, Entanglement, Bell Inequality, Teleportation, No-cloning. Quantum Information Theory: Entropy and Information, the Holevo Bound, Communication over noise quantum channels, entanglement as physical resource. Quantum dense coding and quantum cryptography. Infinite-Dimensional Hilbert Spaces.</i></p>	5
<p>Modul 8 (Quantum computation)</p> <p><i>Quantum circuits. Single and multiple qbits gates Quantum Fourier transform and its applications. Quantum search algorithms.</i></p>	5
<p>Modul 9 (Quantum computation devices)</p> <p><i>Conditions for quantum computation. Harmonic oscillator quantum computer. Optical quantum computer, Ion traps, Nuclear magnetic resonance. More implementations: other schemes</i></p>	3
<p>Modul 10 (Optical systems for quantum information transmission and processing)</p>	5

<i>Point-to-point fiber optic links, design rules, power and rise time budgets. BER, Q and system power penalties. Optical networks: ring and star architectures. Multichannel transmission. Amplified optical links. Effects of fiber dispersion and nonlinear effects on optical pulse transmission. Quantum circuits and algorithms for signal and information processing. Survey of basic architectures. Standard algorithms for data processing and search problems: Shor's algorithm and quantum FFT, Grover's algorithm and heuristic search. Quantum circuits and algorithms for computational intelligence: quantum neural networks, quantum particle swarm optimization (PSO), exhaustive search methods, quantum game theory, etc.</i>	
Others	
Stage	5
Seminars	4
Lab(*)	5
Final test	6
TOTAL	60

(*) During the module Optics Laboratory students will find themselves in contact and study experimentally the phenomena and optical devices described in the lectures held in the other modules

Classical optics : Geometric optics , interference , diffraction , Twyman - Green interferometers , Michelson and Mach - Zehnder , diffraction grating , Monochromators , Fiber Optics and loss of communication channels in fiber . Generation of profiles of field with singularities .

Laser: Pumping systems , resonant cavity , Gaussian beams , CW Laser , Laser Q -Switch , Mode - locked lasers , semiconductor lasers .

Nonlinear Optics : Second harmonic generation

At the conclusion of each one or more modules , according to educational needs , will be held midterm by oral exam to assess the degree of learning achieved by the student .

To all the training activities mentioned in paras matches the acquisition of membership of 60 university credits in addition to the credits already acquired for the course of study required for access to the master .

The educational activities of the Master will be held in Rome , La Sapienza University in the premises of the Department of Basic and Applied for Engineering , Via Scarpa 16 , 00161 Rome .

Classes will start on March 2015 and will end in the month of December 2015.

Attendance at the educational activities of the course is mandatory and must be attested by the signatures of members ; absences for more than 25% of the total number of hours of classes will result in the inability to achieve the title .

In case of non-attendance , low paying or however reprehensible behavior , the Teaching Council of the Master may decide the suspension or exclusion of the participant . In such cases, the registration fees paid will not be refunded .

3 - Duration and number of places available

The training lasts one year

The course is limited. The maximum number of participants is equal to 20 (twenty) , while the minimum number necessary for the activation of the Master , is 10 (ten) .

Classes will start on March 2015 and will end in the month of December 2015.

May participate in the Master , regardless of age and nationality, who are holding a university degree belonging to one of the following classes of degree :

NAME CLASS DEGREE

NUMBER CLASS DEGREE

Automation Engineering 29 / S , LM - 25

Telecommunications Engineering 30 / S , LM - 27

Electronic Engineering 32 / S , LM - 29

Computer Engineering 35 / S , LM - 32

Physics 20 / S , LM -17

Also can access the Master also to holders of a Bachelor achieved according to the previous system to the university reform of DM 509/99 treated as one of the classes mentioned above.

Can access also to Master students with academic qualifications issued by foreign universities , previously recognized as equivalent by the Academic Council of the Master for the sole purpose of admission to the course and / or as part of the inter - university cooperation and mobility .

4.1 - Conditional offers

Graduating candidates may be admitted "conditional" to attend the Master and , under penalty of forfeiture , must promptly notify the graduation took place without exception, which must take place no later than :

- December 17, 2014 for students from other Italian universities (art . 8 , paragraph 5 Manifesto General for Research) ;

- January 31, 2015 for students of Wisdom in undergraduate degree courses and specialized (art . 30 paragraph 3 Manifesto General for Research) .

The subject can not be allowed to participate in any form of facilitation / funding input (assigned according to the assessment for admission to the Master)

4.2 - Admission of students hearers

May be admitted to the frequency of specific modules , up to a maximum of 20 credits , candidates as auditors , however possess a university degree required by art . 4 of this announcement , interested in a deeper understanding of specific topics and wish to enrich their professional preparation . At the end of the selected module, students will receive a certificate of auditors frequently signed by the Director of the Master .

5 – Incompatibility

Under Article 142 of the T.U. 1592/1933 is forbidden to subscribe to multiple courses of university study : therefore participants in the Master 's in this announcement may not enroll in the same academic year to other Master , specialization schools , PhDs, Bachelor and Master of Science. Exceptions are the courses of Higher Education and Training .

6 - How to Access

To enter the competition, candidates must observe the following rules :

6.1 - Registration information system INFOSTUD

All those who submit their applications for the Master must first register at the information system of the University of Rome La Sapienza by following the instructions on the page www.uniroma1.it/studenti - clicking on REGISTER .

After recording the system will issue a registration number that must be entered in the application for admission to the Master .

If the candidate was a former student of "La Sapienza " will not have to register again , as it is already in possession of the serial number , which must still bring in the application form .

We remind you to ensure the university degree possessed , useful to admission to the master , is inserted in your profile INFOSTUDIO following the steps listed : access with freshman and password- USER DATA - INF.ANAGRAFICHE - UNIVERSITY DEGREES .

The graduates instead of entering the graduation date , will have to follow the same steps listed above and insert the flag on LAUREANDI .

If the serial number and password had been forgotten , you can request it by following the instructions at <https://stud.infostud.uniroma1.it> where written : " Password and / or Serial forgotten ? Click here " . Alternatively , you can send an email to settoremaster@uniroma1.it to backfill freshman and password in the text indicating their personal details and attaching scanned copy of a valid ID and signed ; or you can download the application form to <http://www.uniroma1.it/sites/default/files/allegati/Richiestadati.pdf> page , fill in the required information and fax it to the Sector Master to n . 06/49912710, always accompanied by a photocopy of the document as above .

For any other information on how to register , please contact the HELLO :

P.le Aldo Moro , 5 - University Rector building (back Aula Magna)

Open Monday to Friday from 9.30 to 17.00

e.mail ciao@uniroma1.it ; hello@uniroma1.it (for foreign students)

Website www.uniroma1.it/studenti

6.2 - Tax access test and Stamp Duty

The submission of the application for admission is subject to the fee for the access test of € 35.00 plus the stamp duty of € 16.00 , paid virtually , to be paid at any branch of the UniCredit Group - Bank territory national no later than the expiration date of the notice.

The above payment , amounting to € 51.00 , can also be made online, by credit card DINERS , VISA or MASTERCARD (see <http://www.uniroma1.it/studenti/tasse/pagamenti.php>) .

To make the payment must only use the custom form to be printed through the on-line information system of the University, by accessing the site www.uniroma1.it/studenti/infostud (click on SIGN DIRECTLY) , entering your serial number and password staff , and select the order : TAXES - TEST ACCESS - enter the course number : 16124 - NEXT - PRINT

If the Master does not reach the minimum number of members specified in the notice , and do not make a selection (or for securities, nor for examinations) , candidates will be refunded the fee of the admission test of € 45.00 , excluding tax of stamp , after written notice of the Director of the Master and transmitted to the competent Sector of the University.

6.3 - Submission of application for admission

The application for admission to the Master , prepared on plain paper using the form attached to this announcement (Appendix 1) , must be signed by the candidate .

The application form must be attached :

- A photocopy of a valid identity document , duly signed and legible (Identity Card - Driving Car - Passport) ;
- Photocopy of the Tax Code ;
- Copy of the receipt of payment of the fee for access test ;
- Self-certification (according to DPR 445/2000) of the university degree (undergraduate students will still have to declare that the supposed graduation session afferirà Cat. 2013/2014) - (Annex 2) ;
- Curriculum vitae ;
- Declaration of consent to the processing of personal data (Annex 3) ;
- Self-certification (pursuant to Presidential Decree 445/2000) any further qualifications for the score for the merit list .

Submission of the application for admission of candidates of foreign degree

In addition to the application form (Appendix 1) , candidates holding a foreign degree must submit , without fail within the same expiration date of this announcement , the following documentation :

- Photocopy of the Declaration of Value of foreign qualification issued by the competent Italian diplomatic or consular representations of the country in which they gained the title . The declaration of value is essential to assess whether the title obtained by the candidate is eligible for admission to the Master in relation to the level of the same ;

Please note that the Declaration of Value must contain the following information : personal data, the legal duration of the course attended university , the number of total years of pre- university education , and whether the title achieved gives access to Master Italian (post -graduate) of I or II level .

Access requirements shall be met at the time of the application deadline and the Declaration of Value of qualifications obtained abroad must by law be attached to the application form , under penalty of exclusion . STUDENT WITH QUALIFICATION OBTAINED ABROAD CAN NOT , IN ANY WAY , BE ACCEPTED WITH RESERVE .

We will not accept applications with incomplete documentation .

The application form , accompanied by the annexes prescribed in 6.3 , must be received by registered A / R or hand delivery , no later than January 15, 2015 to the following address :

Director of the Master Prof. Conchita Sibilìa at Department of Basic and Applied to Engineering-SBAI -Via Scarpa 16 , 00161 Rome .

We will not accept applications submitted at a later date at the end of expiration.

If shipping the stamp of receipt of the Administrative Offices competent and not the date of dispatch of documentation . The competitor who chooses to adopt such means of delivery assumes all risk of contact late .

The hand delivery of the application for admission can take place on the following days and times:

Secretary's office of the Master

Venue: At the Department SBAI - Basic and Applied Sciences for Engineering

Address : Via Scarpa 16 , 00161 Roma

Days LUN. -Merc . Ven . , From 9.00 to 12.00

We will not allow applications submitted in ways other than those mentioned in this article.

7 - Timing and mode selection

Admission to the Master takes place after evaluation of a university degree , designed to verify the validity of the license with respect to the level of the Master and his belonging to one of the classes listed in the previous article 4 .

At the end of the evaluation and / or selection will be drawn up a ranking of the admitted in descending order of the overall assessment assigned to each candidate .

The rankings will be published on the website of Wisdom <http://www.uniroma1.it/didattica/offerta-formativa/master> and / or posted at the Department of Basic Sciences and Applied for Engineering - SBAI -Via Scarpa 16 , 00161 Roma , at least 20 days before the deadline for the payment of the registration fee as per art. 8 .

The publication has the value of official communication and therefore will not be informed personally about .

8 - Mode of registration to the Master

Will proceed to the registration only the winners , ie the candidates usefully placed in the list of admitted students .

To get the registration to the course, the winners will have to pay the registration fee amounting to € 2,500.00 (Euro duemilaciquencento) .The payment , either in a lump sum in two installments of € 1,250.00 each expiring the first February 27, 2015 and the second June 26

2015, must be made using only the downloadable forms from INFOSTUDIO <https://stud.infostud.uniroma1.it/> accessing the site , entering your serial number and password , and select the order : TAXES - REGISTRATION MASTER / SPECIALIST - enter master code : 16124 - NEXT - PRINT .

After printing the bulletin from the INFOSTUDIO Payment at Unicredit , cashier University Institute , with one of the following ways :

- a door , any agency of the whole country , with cash (The list of branches and the information on payment methods are available on line at the web page <http://www.uniroma1.it/> under " Taxes " > " Payments ") ;
- by check (of any bank) made payable to the student ;
- direct debit on current account (only for account holders Unicredit) ;
- online, by credit card of Visa , Mastercard , Diners web page <https://online-retail.unicredit.it/ibx/web/public/universityTaxes.jsp?url=confirm&univ=sapienza&action=pag>. In case of online payment with credit cards , the result of the payment of the tax is notified by mail of confirmation sent by the cashier UniCredit , the email address entered by the student during the payment . Therefore, students who make payments online should ensure that they received the email notification . Finally, note that the online payment transactions made after 16:30 will be accounted for in the next business day.

Please note that for online payments enough to have a credit card of Visa , Mastercard , Diners and is in no way mandatory to hold a current account at Unicredit .

The registration fee will be refunded only and exclusively in the event that the course is not activated .

Listeners will pay a fee of € 100.00 per each module chosen ; this share will be added to the amount of tax fixed University of € 700.00 and both must be paid in one installment by the deadline set by the Director of the Master . The student hearing officer is exempt from the fee for the test access .

9 - Loans and / or Scholarships

If the Master obtain from Public Funding specific funds , the same may be made available for the partial or total coverage of the registration fee for the Master in respect of the list of admitted students prepared by Scientific Teaching Council / Commission for selection of the Master .

If the total funding of the registration fee Authorities will make payments in a lump sum no later than the expiration of the second installment .

If the student has a sponsor personalized and / or employer with the responsibility to make the payment of the fee on behalf of the student , this procedure must be authorized by the Director of the Master ; payments must be made in a lump sum no later than the expiration of the second installment . In the case of payments made over that period, the student will apply surcharges for late payment as specified in Art . 10 .

It is noted that until it can be taken any payment of the registration fee , the student will not be formally or in writing to the Master or uninsured.

10 - Late payment of registration fee

The student who will make the payment of the registration fee will be duly registered and insured.

In case of suitable potential successors in the ranking, the student who does not refine the registration to the Master within the deadline established , will be considered a no . Any late registration will be

possible only if authorized by the Director and only after complete scrolling the list . Delays also on payments of the second installment must first be authorized by the Director of the Master . Further delay payment unauthorized will be reason for exclusion from the course if the Director of the Master deems it appropriate .

In any case, the failure to meet the terms of payment will determine the application of the surcharge for late payment in the amount of € 63.00 for each installment . If payment is made after 60 days from the expiration of the installment included in the notice , the surcharge for late payment will amount to € 126.00 for each installment .

After the expiry of each installment , the student will not be able to print in their autonomy payment modules from Infostud information system , but the same will be required , by e -mail , the Director of the Sector University Masters and will be inclusive of surcharges for late payment .

The graduate student , admitted subject , will pay the first installment (or the full fee) for inclusion in the Master only after graduating , without the burden of the surcharge .

The second installment , however , the surcharge will be applied as a result of any delay in payment .

11 - Step and / or transfer

It is not allowed to pass and / or transfer from one course to another course of Master.

12 - Waiver

Participants admitted that intend to give up the Master , must give written notice to the Director . The course structure will then forward this information to the Sector University Masters of the University. Registration fees , already paid , are not refundable .

13 - Charge for the final exam

Before the final exam , the student must pay the required fee of € 70.00 using the form downloaded from the website www.uniroma1.it/studenti/infostud , entering your serial number and password , and in ' order select : - TAXES - RIGHTS oF SECRETARIAT - type of newsletter : select the option for the final exam - enter the year 2015 - NEXT - PRINT .

Please note that this report shows a date of issue , for the purposes of the payment in the bank , equivalent to the expiration date.

If a student has not yet taken the final exam and must enroll in another course of the following academic year , the final exam fee must still be paid before the new course .

14 - Questionnaire AlmaLaurea

Before the final exam , the student must have completed the questionnaire mandatory AlmaLaurea as follows :

- The student who does not have a CV in the database AlmaLaurea will connect to the page <https://www.almalaurea.it/lau/registrazione/> , and gain access credentials ;

- The student who already has a CV in the database AlmaLaurea will add the new title Master to his profile , through the page AlmaGo ! (from the " students and graduates ") , by logging in with their credentials AlmaLaurea and doing the following :

- Click on Add a degree;
- Follow the procedure Insert title ;
- Select Next to graduation ;
- Select the location of the course and the university / institution of reference;
- Specify the data of the study course and proceed.

To fill out the end of the course , after entering the title , return to AlmaGo ! and in " my titles ," click on " Fill in the questionnaire " next to the title this year.

After filling in this form you need to print a receipt that must be handed to the Secretary of the teaching Master before the final exam .

Who should have lost the credentials AlmaLaurea can retrieve them using this tool in the login page .

In case of problems during the registration process , you can write to servizio.laureati@almalaurea.it or call toll free 800/720772 .

15 - Obtaining the qualification

At the end of the course there will be a final exam for graduation .

The final exam consists of a paper relating to a topic covered during the course

To be admitted to the final exam , the student must obligatorily :

- have attended classes regularly ;
- have acquired the number of academic credits required , including claims corresponding to other training activities carried out;
- be in good standing with the payment of the registration fee and the fee for the final exam ;
- have completed the questionnaire AlmaLaurea and have printed a receipt that must be handed to the Secretary of the teaching Master .

The final work will be presented and discussed in front of the Selection Committee of the final vote that expresses the one hundred and ten and can unanimously to grant candidate honors with distinction . The minimum grade for passing the test is 66/110 (sixty-six / one hundred and ten) .

The diploma Master will be released by the University of Rome "La Sapienza " , only after checking the correctness of the position of the student.

The parchment does not report the vote but only if given praise and will be delivered by the Director of the Master to the beneficiaries.

16 – Further Information

Concita Sibia- Dip. SBAI- concita.sibia@uniroma1.it

Fabio Antonio Bovino- SELEX-ES...- fabio.bovino@selex-es.com.

alessandra.pelorosso@uniroma1.it

Segreteria Master:

Dipartimento di Scienze di Base e Applicate per l'Ingegneria- Via Scarpa 16, 00161 Roma.

Recapiti telefonici: 06.49916490

E-mail:cecilia.dambrosio@uniroma1.it .

APPLICATION FORM

the Interfaculty Master 's Degree in
Optic and Quantum Information
Academic year 2014 - 2015

The Director of the Master

Prof. Concita Sibilgia

c / o Department of Basic Sciences and Applied to Engineering- SBAI

Via Scarpa 16

00161 Rome

The / undersigned / a

_____ Serial

No . _____ tax code _____

born / a _____ the

_____ nationality

_____ resident _____ via

_____ C.A.P

_____ Phone _____ / _____ Fax _____ / _____ Mobile

_____ / _____ personal e-mail (if no , e- mail reference) _____

_____ resident in Italy (only for foreigners living abroad)

CITTA' _____ C.A.P. _____ Provincia _____ Telefono _____

/ _____ in possession of a university degree :

_____ achieved on

_____ at the University / Institute with the following vote

apply to be / a

Master of level , established at the
Faculty of of ' University of Rome "La Sapienza " ,
for the academic year . 2014-2015 .

To this end , attached to this :

- A photocopy of a valid identity document , duly signed and legible (Identity Card - Driving Car -
Passport) ;

- Photocopy of the Tax Code ;
- Copy of the receipt of payment of the fee for access test ;
- Self-certification of the university degree (undergraduate students will still have to certify that the graduation session represents a session of academic year . 2013/2014) (Annex 2) ;
- Photocopy " Declaration of Value " (for those who have obtained a degree abroad) ;
- Curriculum vitae ;
- Declaration of consent to the processing of personal data (Annex 3) ;
- Self-certification of any further qualifications for the score for the merit list .

The / undersigned / declares to have read and approved at every point the admission notice to the Master , to be in possession of all the requirements laid down therein and to be aware that , pursuant to Legislative Decree . 445/2000 , the release of false or incomplete statements is a criminal offense .

_____ , _____

Signature of the / the applicant / a

AUTO CERTIFICATION ACADEMIC TITLE

The Director of the Master

Prof. Concita Sibilia

c / o Department of Basic Sciences and Applied to Engineering- SBAI

Via Scarpa 16

00161 Rome

The / undersigned / a _____ born / a
_____ il _____ , CF _____

under Articles 46 and 47 of Presidential Decree n . 445/2000 and subsequent amendments , aware
of the penalties provided for by art . 76 of the same DPR , for cases of falsification of documents
and false statements therein ,

DECLARES

He graduated _____ (three-year / master / specialist) in
_____ on _____ at the Faculty of
the University di _____ afferent ay
_____ reporting the following vote _____ and presenting the thesis by the
heading " _____ " Speaker
_____ .

(to be filled in case of graduating)

- Which is expected graduation _____ (three-year / master / specialist) in
_____ dated _____ afferent ay _____ Faculty
di _____ University _____ and presenting the
thesis by the heading " _____ " - Rapporteur
_____ .

(Place and Date) (Signature)

Information pursuant to Legislative Decree 196/2003

Code regarding personal data

Aims of treatment

According to Article 13 of the law . n.196 / 2003, the data you provide will be used to the extent necessary and for the purposes related to enrollment and the frequency of the Master .

Processing methods and stakeholders

The data will be using both manual and computerized .

The data may be disclosed to institutions or public and private institutions should be strictly necessary for the conduct of educational activities of the course .

Nature of the data and the result of a refusal

The conferment of data is required , and any refusal to provide such data will make it impossible to give course at the course and management of activities related procedural and educational activities .

Owner and manager of data processing

The owner of the data is the University of Rome in the person of its temporary legal representative , the Rector , domiciled for the office at the headquarters of the University .

Responsible for processing the data is the Course Director of Education / Higher Education / Master .

Rights under Art . 7 of Legislative Decree no . 196/2003 Right of access to personal data and other rights

You have the right to obtain confirmation of the existence of personal data concerning him , even if not yet recorded, and their communication in intelligible form .

You have the right to obtain information :

- a) the origin of personal data;
- b) the purposes and methods of treatment;
- c) the logic applied in case of treatment with the help of electronic means ;

- d) the identity of the owner, manager and the representative appointed under article 5 , paragraph 2;
- e) the subjects or categories of subjects to whom the personal data may be communicated or who can learn about them as appointed representative in the State , managers or agents .

You have the right to obtain:

- a) updating , rectification or , when interested , integration of data ;
- b) the cancellation, anonymization or blocking of data processed unlawfully , including those that do not 'need to be kept for the purposes for which the data were collected or subsequently processed ;
- c) certification that the operations in letters a) and b) have been notified , as also related to their contents, to those to whom the data were communicated or disseminated , unless this requirement is impossible or involves the use of means manifestly disproportionate to the protected right .

You have the right to object, in whole or in part :

- a) for legitimate reasons the processing of personal data concerning him , even to the scope of the collection;
- b) to the processing of personal data for purposes of sending advertising materials or direct selling or for carrying out market research or commercial communication .

(Place , Date) (Signature)