

DirSegrStud/IT

# CALL FOR APPLICATIONS FOR ADMISSION TO THE SINGLE-CYCLE MASTER'S DEGREE PROGRAMME IN MEDICINE AND SURGERY IN ENGLISH

# "INTERNATIONAL MEDICAL SCHOOL"

# ACADEMIC YEAR 2023/2024

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Please note that this is a courtesy translation. Only the Italian version is binding.



### THE RECTOR

#### **HAVING REGARD TO**

Law no. 264 of 2 August 1999, entitled "Rules governing access to University study programmes", and in particular article 1, paragraph 1, subpart a), and article 4;

#### **HAVING REGARD TO**

Ministerial Decree no. 270 of 22 October 2004, entitled "Amendments to the regulations containing rules governing the educational autonomy of Universities, passed by Decree of the Ministry for Universities and Scientific and Technological Research no. 509 of 3 November 1999";

#### **HAVING REGARD TO**

Ministerial Decree no. 994 of 28 July 2023, entitled "Determination of places available for the single-cycle Master's degree programmes in Medicine and Surgery, in Italian and in English, for a. y. 2023/2024";

### **HAVING REGARD TO**

Ministerial Decree no. 1082 of 7 August 2023, entitled "Procedures and contents of the admission exam to the single-cycle Master's degree programmes in Medicine and Surgery and in Dental Medicine in English for a. y. 2023/2024";

# **HEREBY DECREES AS FOLLOWS:**

A competition is announced for admission to the single-cycle Master's degree programme in Medicine and Surgery in English for academic year 2023/2024.

## Art. 1 - Admission requirements

Candidates holding an Italian upper secondary school diploma or an equivalent foreign qualification can take the admission exam.

Foreign qualifications are valid if obtained after 12 years of schooling and if they allow for admission to universities in the country where they were obtained.

All the details on foreign qualifications and admissions of international students to Italian universities are posted on the website <a href="http://www.studiare-in-italia.it/studentistranieri/">http://www.studiare-in-italia.it/studentistranieri/</a> and on <a href="http://www.studiare-in-italia.it/studentistranieri/">www.unimi.it</a>, in the <a href="international students">international students</a> section.



Foreign qualifications are in any case vetted by the University for compliance with the relevant ministerial provisions and existing bilateral agreements.

# Art. 2 - Number of places available

The number of places available for enrolment in the first year is **55**; another **25** places are reserved for non-EU students residing abroad.

# Art. 3 - Registering for the admission exam and deadlines

Candidates must submit their application online on the Universitaly portal at <a href="https://www.universitaly.it">www.universitaly.it</a>, from 18 September 2023 to 3:00 pm (GMT+2) on 29 September 2023. No extensions will be granted.

During registration on the Universitaly website, candidates must indicate their email address and the universities they wish to attend in order of preference, as well as any language certificates they hold, among those listed in Annex B of this call.

If the candidate intends to sit for the test at an Italian venue, the first option selected by the candidate will be automatically considered as the venue where the test will have to be taken. No exceptions will be granted regarding the venue chosen for taking the test. University preferences may not be changed or complemented after 3 pm (GMT+2) on 29 September 2023, i.e. the deadline for the submission of applications. In any case, the last "confirmation" expressed by the candidate before that deadline will be considered valid.

This procedure is mandatory, under penalty of exclusion from the admission exam.

Candidates who intend to sit for the test abroad must indicate a foreign venue among those listed in art. 6.

To sit for the test, candidates must pay the corresponding fee by following the procedure specified on the portal <a href="www.universitaly.it">www.universitaly.it</a>. Candidates who have paid the fee but do not have the online registration receipt will not be allowed to sit for the test.

Additionally, non-EU candidates applying for a visa must submit a pre-enrolment application through the Universitaly portal. Please visit the website of the Ministry of Education and Research at <a href="https://www.studiare-in-italia.it/studentistranieri/">https://www.studiare-in-italia.it/studentistranieri/</a> for information on pre-enrolment deadlines and procedures. When submitting the pre-enrolment application, candidates must upload a valid English language certificate. Candidates who do not meet the language proficiency requirement for this category of students will not be allowed to sit for the test.



#### Art. 4 - Candidates with disabilities

Candidates with disabilities who need additional time and/or specific aids for the test must submit their request online at

https://elixforms.unimi.it/rwe2/module\_preview.jsp?MODULE\_TAG=COSP\_disabilit\_istanza\_provaDlammissione2023&IATL=it&ELANG=en.

The request must be submitted by the application deadline and must be accompanied by a certificate of disability and/or handicap pursuant to Law 104/1992.

In light of the restriction of activities carried out by the National Health Service during the Covid-19 pandemic, candidates may be allowed to take the test also on the basis of medical certificates that are not up to date, provided that they submit an updated certificate at a later time.

EU or non-EU candidates residing abroad who wish to request specific aids must submit a disability certificate issued in the country of residency accompanied by a true and accurate translation into English or Italian, sworn or certified by an Italian diplomatic mission. If legalisation is required by the international rules in force, the original certificate must also be legalised.

The Disability Services will evaluate these documents and check if they certify a disability recognised by Italian legislation.

Aids may be allowed only subject to the positive evaluation by the Disability Services' experts.

The following tools may not be used in any case: dictionaries, lists of formulas, periodic table, conceptual maps, additional computers (other than the one provided for the admission exam), tablets, smartphones, smart glasses and other similar tools.

For information, please contact the Disability Services at: ausili.ammissioni@unimi.it.

### Art. 5 - Candidates with SLD

Candidates with specific learning disabilities (SLD) who need accommodations for the test must submit their request online at

https://elixforms.unimi.it/rwe2/module\_preview.jsp?MODULE\_TAG=COSP\_DSA\_istanz a\_provaDlammissione2023&IATL=it&ELANG=en.

The request must be submitted by the application deadline and must be accompanied by a certificate of specific learning disabilities (SLD) pursuant to law no. 170/2010. The certification must be issued by the National Health Service, by an authorised private medical team or by a private specialist and must be accompanied by a document of compliance issued by the competent health authority.



In light of the restriction of activities carried out by the National Health Service during the Covid-19 pandemic, candidates may be allowed to take the test also on the basis of medical certificates that are not up to date, provided that they submit an updated certificate at a later time.

EU or non-EU candidates residing abroad who wish to request any accommodations must submit an SLD certificate issued in the country of residency accompanied by a true and accurate translation into English or Italian, sworn or certified by an Italian diplomatic mission. If legalisation is required by the international rules in force, the original certificate must also be legalised.

The SLD Services will evaluate these documents and check if they certify a specific learning disability recognised by Italian legislation.

Aids may be allowed only subject to the positive evaluation by the SLD Services' experts.

The following tools may not be used in any case: dictionaries, lists of formulas, periodic table, conceptual maps, additional computers (other than the one provided for the admission exam), tablets, smartphones, smart glasses and other similar tools.

For information, please contact the SLD Services at: <a href="mailto:ausili.ammissioni@unimi.it">ausili.ammissioni@unimi.it</a>.

# Art. 6 - Admission exam schedule and procedure

The admission exam will take place on **17 October 2023** at the venues specified in the following table:

Azerbaijan	Baku			
Brazil	São Paulo			
Canada	Toronto			
China	Beijing			
Cyprus	Nicosia			
France	Paris			
Germany	Frankfurt			
Germany	Munich			
Greece	Athens			
Hong Kong	Hong Kong			
India	New Delhi			
Italy	Bari: Università degli Studi di Bari			
Italy	Milan: Università degli Studi di Milano			
Italy	Milan: Università degli Studi Milano - Bicocca			
Italy	Rome: Università degli Studi di Roma "La Sapienza"			
Italy	Rome: Università degli Studi di Roma "Tor Vergata"			
Italy	Naples: Università degli Studi della Campania "Luigi			
	Vanvitelli"			
Italy	Naples: Università di Napoli Federico II			



Italy	Bologna :Università di Bologna				
Italy	Turin: Università degli Studi di Torino				
* Italy	Catania: Università degli Studi di Catania				
Italy	Pavia: Università degli Studi di Pavia				
Italy	Parma Università degli Studi di Parma				
Italy	Siena: Università degli Studi di Siena				
Italy	Messina Università degli Studi di Messina				
Italy	Padua: Università degli Studi di Padova				
Italy	Ancona: Università Politecnica delle Marche				
Pakistan	Lahore				
Poland	Warsaw				
Saudi Arabia	Jeddah				
South Africa	Johannesburg				
Spain	Madrid				
Switzerland	Zurich				
Türkiye	Ankara				
Türkiye	Istanbul				
United Arab Emirates	Dubai				
United Kingdom	London				
USA	New York				

<sup>\*</sup> under accreditation process

The addresses of Italian and foreign exam venues, as well as the examination rooms, will be published in a subsequent notice on the University website and on the website of the Ministry of University and Research (MUR).

The exam will start at 12:00 noon in Italy, and simultaneously in all other venues abroad, with the start time adjusted to the time zone of each foreign country.

The admission exam has a duration of 100 minutes.

Candidates who chose to sit for the exam at the University of Milan must **arrive at 10:00 am** at their assigned venue, as specified in the notice on the allocation of candidates to the various examination rooms, which will be published at a later time.

All candidates must bring the same valid identity document submitted during registration for the admission exam.

Candidates without documents or with invalid documents, or arriving late, will not be admitted to the exam.

Candidates will be allocated to the examination rooms according to their age, except in the case of twins.

In the examination room, each candidate will receive a folder containing:



- a) A personal data form that the candidate must fill in, without any identification code;
- b) The examination questions bearing the identification code of the folder and 2 sheets for rough works;
- c) An answer form bearing the same identification code of the folder;
- d) A sheet with the identification code of the folder, the name of the University and the degree programme for which the admission exam is taken.

The following rules must be observed during the exam:

- a) Candidates may use only a black pen, provided by the University or the foreign test centre, to mark the answer form;
- b) Candidates must not interact with each other nor bring into the examination room and/or use any cell phones, palmtops, smartphones, smartwatches, tablets, earphones, webcams and the like, or pencils, pens, stationery (or any other instrument suitable for writing), manuals, schoolbooks, even if in partial reproduction, handwritten notes, blank papers and other material to consult, under penalty of exclusion from the exam;
- c) When submitting the exam papers, candidates must fill in and sign the personal data form, also to confirm that the codes mentioned in g) are identical;
- d) Candidates must mark the selected answer by placing an X in the corresponding box (the diagonal lines of the X must be within the box). Candidates may correct only one answer to a question by completely blacking out the previously chosen box and choosing another: only one of the five boxes must be crossed in order to score a point;
- e) Next to the sequential number of the questions, the answer form bears a small circular figure that the candidate has to mark if he/she has no intention to answer the question: once marked, this choice cannot be modified. Should the candidate not mark any answer box, the question will be considered as not answered even if the circular figure was not marked;
- f) At the end of the exam, the candidate will be invited to reach a dedicated station, located at reasonable distance from the committee and equipped with a specific pen, where he/she will find:
  - a box for the delivery of the personal data form, with a template of the personal data form displayed on one side of the box itself;
  - pairs of adhesive labels with barcodes on them.
- g) Each candidate must choose a pair of adhesive labels, apply one of them on the answer form and the other one on the personal data form. The candidate must personally apply the pair of labels and check that the alphanumeric codes

indicated on the two labels are identical. Then, the candidate must sign, at the bottom of the personal data form, a statement of authenticity regarding the personal data and of correspondence between the alphanumeric codes applied on the personal data form and on the answer form. After that, the candidate must insert the personal data form in the box at the dedicated station and go to the committee desk, where he/she must insert the answer form in the dedicated box, with the front page, i.e. the page containing the answers, facing down.

### The exam will be invalidated if:

- 1. The candidate sits for the exam in a different room from the one to which he/she is assigned, unless the change is authorised by the examining committee and mentioned in the committee report;
- 2. The candidate brings into the examination room or uses a cell phone, palmtop, smartphone, smartwatch, tablet, earphones, webcam and the like, or a manual, schoolbook, handwritten notes or other material to consult;
- 3. The answer form contains any signature or other distinctive mark written by the candidate or by a member of the committee (on the front or back);
- 4. The candidate interacts with other candidates and/or tries to copy and/or exchange any material, including personal data forms and/or answer forms;
- 5. The candidate uses pens, pencils or any other suitable writing device to make changes, additions and/or corrections to the answer form, while inserting the personal data form and the answer form in the dedicated boxes.

The invalidation of the exam is decided by the committee. In case of invalidation no score is attributed to the exam.

The committee and supervisory staff shall ensure compliance with these provisions and may take measures against non-compliant candidates. For aspects not specified in this call for applications, the rules for public competitions shall apply.

# Art. 7 - Examining committee

The examining committee is appointed by a Rector's Decree.

During the exam, the committee is assisted by teaching and administrative staff, who are responsible for supervising and identifying candidates.

# Art. 8 - Exam syllabus

The admission exam is arranged by the Ministry of University and Research (MUR).

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It consists of sixty multiple-choice questions with five possible answers. The candidate has to choose only one answer, discarding wrong, arbitrary or less probable answers. The topics include reading comprehension and knowledge acquired during studies, logical reasoning and problems, biology, chemistry, physics and mathematics.

Based on the syllabus specified in Annex A, which is an integral part of this decree, the exam consists of:

- Four (4) questions on reading comprehension and knowledge acquired during studies;
- Five (5) questions on logical reasoning and problems;
- Twenty-three (23) questions on biology;
- Fifteen (15) questions on chemistry;
- Thirteen (13) questions on physics and mathematics.

# Art. 9 - Ranking lists, minimum score and examination assessment

Within the limits of the places available for enrolment, EU candidates and non-EU candidates within the meaning of art. 26 of Law no. 189/2002 who obtain a minimum score of twenty (20) points in the test are admitted to the programme, in decreasing order of score and considering their university of choice. Candidates who do not obtain the minimum score will not be included in the ranking list.

Non-EU candidates residing abroad, who are not required to achieve the minimum score specified in the above paragraph, are admitted within the quota of places reserved for them, in decreasing order of score. Non-EU candidates residing abroad who do not answer to any question will not be included in the ranking list.

A maximum of 90 points can be scored in the test, according to the following criteria:

- 1.5 points for each correct answer;
- minus 0.4 (-0.4) points for a wrong answer;
- 0 points for no answer.

On the basis of the score calculated according to the above criteria, CINECA draws up a single national ranking list for EU candidates and non-EU candidates within the meaning of art. 26 of Law no. 189/2002.

The ranking list for non-EU citizens residing abroad is drawn up by the University. In case of equal scores, the following criteria shall apply:

 a) Priority shall be given to the candidate with the higher score in the biology section, and then in chemistry, physics and mathematics, logical reasoning and problems, and reading comprehension and knowledge acquired during studies, considered in this order;

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- b) Priority shall be given to the candidate who obtained a language certificate, among those listed in Annex B, by the deadline for application, as declared during registration for the admission exam. Possession of language certificates, as required of candidates for the purposes of this call for applications, is self-certified as per art. 46 of Presidential Decree no. 445/2000. In all stages of the procedure, the University can check the truth of statements self-certified by the candidate, who must therefore provide all necessary elements to enable the verification. If false or misleading statements emerge from the documentation submitted by the candidate, his/her enrolment is cancelled, any benefits granted are withdrawn and any taxes and other fees paid are retained by the University. This is without prejudice to any sanctions provided for by the Italian Criminal Code and by applicable laws regarding false declarations, and to possible claims for damages by the interested parties;
- c) In the event of equal score between one or more disabled candidates holding a certificate of disability equal to or greater than 66% or other certificate pursuant to art. 3, paragraph 3 of Law no. 104/1992, and one or more non-disabled candidates, the candidate holding a certificate of disability equal to or greater than 66% or other certificate pursuant to art. 3, paragraph 3 of Law no. 104/1992 shall have priority;
  - If a disabled student holding a certificate of disability equal to or greater than 66% or other certificate pursuant to art. 3, paragraph 3 of Law no. 104/1992, along with a medical certificate no matter if outdated, in light of the limited activity of the National Health System due to the Covid-19 pandemic wishes to be granted preferred admission over an identically ranked non-disabled candidate, he/she must submit the aforementioned documentation (certificate of disability equal to or greater than 66% or other certificate pursuant to art. 3, paragraph 3 of Law no. 104/1992) to their assigned university within fifteen (15) days from the date of their assignment. The date of assignment counts as the first day. Candidates who do not submit the required certificate within the above time frame may not be granted preferred admission.

    Candidates who are assigned to the University of Milan must upload the documentation certifying their disability during the online enrolment.
- d) Except for the case referred to in letter c), if the score is still equal, the younger candidate shall prevail.

# Art. 10 - Publication of the ranking lists and enrolment deadlines

On **26 October 2023**, on behalf of the Ministry of University and Research, CINECA will publish the candidates' scores, as identified by label code, at <a href="https://www.universitaly.it">www.universitaly.it</a>, in the candidate's reserved area, in compliance with applicable data protection regulations.

The results will remain available in the reserved area until conclusion of the procedure.

On **31 October 2023**, candidates will be able to view their answer form, scores and personal data form by accessing their personal page on the Universitaly website.

On **7 November 2023**, the national ranking list by name will be published in the students' reserved area on the Universitaly website.

With each update of the ranking list:

- a) Candidates who achieve a position in the list included among the number of places available for their first preference receive the status ASSEGNATO (i.e. ASSIGNED) and must enrol by the indicated deadline. If a candidate does not enrol within the deadline, he/she will lose the right to enrol. No reasons for missing the deadline are accepted;
- b) Candidates who do not achieve a position in the list among the number of places available for their first preference receive the status *PRENOTATO* (i.e. RESERVED) for a subsequent choice. In this case, the candidate can enrol in the programme at the university of subsequent choice by the deadline, or await the conclusion of enrolments of those with priority in the ranking list, to see if additional places become available for his/her higher preference options. If a RESERVED candidate enrols, all the other preferences expressed are automatically cancelled.

On **7 November 2023**, on the basis of the ranking list and the number of places available, the names of candidates ASSIGNED and RESERVED for the programmes and universities indicated as their first choices will be published in the students' reserved area, and each university will receive a list of these candidates.

For the purposes of enrolment, the ranking lists of each degree programme will be updated as follows:

- 1) On **7 November 2023**, the ranking list will be published in the students' reserved area of the Universitaly website, with the candidates' names, scores, positions in the ranking list and the university to which they have been ASSIGNED, or for which they have the status *PRENOTATO* or *IN ATTESA* (i.e. WAITING FOR), considering the position in the ranking list of all the candidates with precedence and their university of choice;
- 2) ASSIGNED candidates must enrol according to the procedure of the chosen university. RESERVED candidates may do the same. To facilitate management of the national ranking list, ASSIGNED and RESERVED candidates will have **no more**

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than four (4) days to enrol, including the day the ranking list is updated, excluding Saturdays, Sundays and holidays. ASSIGNED students who fail to enrol by the four-day deadline are assumed to have foregone their place. RESERVED students who do not enrol do not lose their position in the ranking list;

- 3) Within five days after the deadline referred to in point 1), and in any case no later than on 12:00 noon of the fifth day after each updating of the ranking list, including the day of publication and excluding weekends and holidays, each university will notify CINECA of the names of the students who have enrolled.
- 4) Within five days after the deadline referred to in point 1), and in any case no later than on 12:00 noon of the fifth day after each updating of the ranking list, including the day of publication and excluding weekends and holidays, all candidates except those who have enrolled or foregone their place and candidates with the status POSTI ESAURITI (i.e. NO PLACES AVAILABLE), must confirm their interest in remaining on the ranking in the students' reserved area of the Universitaly website, under penalty of exclusion from the competition. Candidates who do not confirm their interest are excluded from the ranking list and lose their right to enrol. No reasons for candidates' failure to confirm their interest will be accepted, as the online procedure requires a very short time to be completed and can be delegated to trustworthy third parties who can complete it by the five-day deadline. After the expiry of the deadline, an automatic notice of forfeiture will appear in the reserved area. Against this notice, without any further communication or challenge from the Ministry of University and Research, an appeal may be lodged to the Regional Administrative Court of Lazio within sixty days, or to the President of the Republic within 120 days from the publication in the reserved area of each candidate; if the candidate does not lodge an appeal within the time limits specified, no action against other grounds relating to the candidate's failure to enrol in one of the chosen degree courses may remedy his/her exclusion.
- 5) On **15 November 2023**, after having received the information specified in point 3) and based on the candidates' merit positions and preferences expressed, CINECA will publish the updated ranking list following the procedures described in points from 2) to 4).
- 6) Subsequent updating of the ranking lists will follow the procedures and deadlines indicated in points 2) and 4).

Students with a sufficiently high position in the ranking list may enrol in a programme year subsequent to the first only after their relevant credits from prior learning and any other prerequisites, as contemplated by the study programme's regulations, have been recognised. Moreover, their admission to years subsequent to the first is subject to the availability of places for the required year, based on the previously planned number of places within the relevant cohort. These procedures, like withdrawals

after enrolment, lead to updating of the ranking list, to the exclusive benefit of students who have not enrolled but who hold a sufficiently high position to do it, only if they are communicated while there are still places available in the programme of the university. Any further transfer or withdrawal requests submitted after all places in the programme have been covered will not lead to further updating of the ranking list.

Students can enrol in years subsequent to the first, after recognition of credits and prerequisites by the assigned university, only within the limits of places that have become available for each programme year, within the relevant cohort, as a result of students' withdrawals, transfers to another university for enrolment in the same degree programme, transfers to another programme at a foreign university, transfers to another programme at the same university or another in Italy. Subsequent-year enrolment shall in any case occur in application of the procedures established by the regulations of the relevant university for ascertaining the actual availability of places in the relevant programme year, based on the number of places previously defined in the annual planning decrees. After ascertaining the availability of places, each university shall fill any vacant places of the relevant cohort, whose number of students is defined by the planning of the Ministry of University and Research for the first year. To this end, the university shall publish a notice and carry out a selection procedure for interested candidates. Universities shall periodically notify the public of any vacant places, by publishing ad-hoc notices or calls. Candidates who wish to enrol in years subsequent to the first may submit their application only after such notice or call has been published. In this case, candidates are not required to pass any entrance examination.

Enrolments of students from another EU or non-EU university in years subsequent to the first may only occur after the new university has verified the academic career of the student, with particular regard to the peculiarity of his/her previous degree programme, the exams passed, the theoretical studies carried out and the practical experiences gained in the university of origin, and subject to the number of places available, as assigned to the university in the annual planning decrees. These students have to submit a transfer application according to the procedures and deadlines specified in the Regulations regarding transfer applications into the singlecycle degree programmes in Medicine and Surgery and Dental Medicine of the University of Milan. The document and the number of places available for years subsequent to the first are published on the University website at https://www.unimi.it/en/study/bachelor-and-master-study/degree-programme-

# Art. 11 - Enrolment procedure

Eligible candidates must enrol by the deadline specified in art. 10, following the online procedure available at

http://studente.unimi.it/immatricolazioni/primoLivello/.

Detailed information on the enrolment procedure is available at <a href="https://www.unimi.it/en/study/bachelor-and-master-study/degree-programme-enrolment-first-degree-programme">https://www.unimi.it/en/study/bachelor-and-master-study/degree-programme-enrolment-first-degree-programme</a>.

**Candidates holding a foreign qualification** are required to upload the following documents when completing the online enrolment process:

- ID;
- Italian tax ID (codice fiscale);
- Upper secondary school diploma legalised by the authorities of the issuing country, with an official Italian translation;
- Declaration of Value (dichiarazione di valore in loco) issued by the Italian Embassy in the country where the qualification was obtained or CIMEA statement of comparability or statement of validity issued by ENIC-NARIC centres;
- University enrolment certificate with transcript of records or post-secondary
  qualification obtained from a higher-education institute other than a
  university, or foundation course certificate if the local system provides for less
  than 12 years of schooling;
- Academic qualification certificate, if provided for in the country of origin;
- Any other documents certifying specific qualification requirements (e.g. APs for US qualifications, A-level for UK qualifications);
- Valid residence permit (only for non-EU citizens);
- Italian language certificates, if any.

In addition to these documents, **non-EU students applying for a visa** are required to submit the following:

- Universitaly pre-enrolment application receipt;
- Student visa.

Candidates who do not have the required documentation when enrolling may submit it **by 28 November 2023** through the dedicated online service available on the <a href="International enrolment">International enrolment</a> page.

The validity of foreign qualifications is verified upon submission of the official documents. Until then, candidates are admitted to the programme conditionally, and may be rejected if they are found not to meet the requirements.

Foreign qualifications are valid if obtained after 12 years of schooling and if they allow for admission to universities in the country where they were obtained.

All the details on foreign qualifications and admissions of international students to Italian universities are posted on the website <a href="http://www.studiare-in-italia.it/studentistranieri/">http://www.studiare-in-italia.it/studentistranieri/</a> and to the <a href="international students">international students</a> pages of the University portal.

Foreign qualifications are in any case vetted by the University for compliance with the aforementioned provisions and existing bilateral agreements.

# Art. 12 - Person in charge of the procedure and contact details

Pursuant to Law no. 241 of 7 August 1990, as subsequently amended and supplemented, the person in charge of the procedure set forth in this call for applications is Emanuela Dellavalle (Managing Director of the Student Registrar and Education Incentive Programmes Division).

For further information on this call for applications please use the <u>InformaStudenti</u> service, selecting the category: "Enrolment".

Milan, 9 August 2023

THE RECTOR Elio Franzini

# Annex A - Syllabus for the admission exam to the single-cycle Master's degree programme in Medicine and Surgery (LM-41) in English

For admission to the programme, the following will be tested: understanding and analysis of various types of written texts; logical and mathematical reasoning skills; general knowledge, with particular regard to history, geography, society and institutions; knowledge of mathematics, chemistry, physics and biology.

The knowledge and skills required are those taught in schools, which organise their educational activities in accordance with the Italian Indications for general upper secondary schools (*licei*), and the Guidelines for technical and vocational upper secondary schools(*istituti tecnici* and *istituti professionali*, respectively) schools, also with a view to the State exam.

## 1. Reading comprehension and knowledge acquired during studies;

Reading comprehension in English for a variety of different texts and communicative purposes constitutes a cross-cutting skill, since all questions will be written in English, including through a symbolic language.

The following skills will also be specifically tested:

- understanding abstract, uncommon or specialised vocabulary in real contexts;
  - identifying cohesion and consistency in texts;
  - extracting and inferring specific information from the text.

These skills will be tested with short texts taken from scientific essays, classic and contemporary fiction, newspapers and generalist or specialised magazines. Skills acquired in previous studies and knowledge on general culture topics (including international ones) and contemporary discussion topics will also be tested, using short texts of various types and topics.

Particularly, questions will aim to ascertain:

- the ability to situate relevant historical and cultural phenomena in space and time by orienting oneself in represented space and time;
- knowledge of the main national and international institutions;
- an understanding of events in the fields of law, economics and citizenship.

## 2. Logical reasoning and problems

Questions are aimed at ascertaining the candidate's ability to pursue an argument logically, coherently with the premises. Such premises are expressed either symbolically or verbally, and focus on cases and problems, also of an abstract nature, which have to be solved through the application of different forms of logical reasoning.

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# 3. Biology

- The chemistry of living things
- The biological importance of weak interactions
- Organic molecules in living organisms and their respective functions. The role of enzymes.
- The cell as the basis of life. Cell theory. Cell size. Prokaryotic and eukaryotic cells of animals and plants. Viruses.
- Cell membrane: structure and functions, membrane transport. Cell structures and their specific functions.
- Cell cycle and reproduction: mitosis and meiosis chromosomal equipment and maps.
- Reproduction and inheritance. Life cycles. Sexual and asexual reproduction
- Mendelian genetics: Mendel's laws and their applications. Classical genetics: chromosome theory of inheritance models of inheritance. Molecular genetics: DNA structure and duplication, genetic code, protein synthesis. DNA of prokaryotes. Chromosome structure of eukaryotes. Genes and regulation of gene expression. Human genetics: transmission of mono and multi-factorial traits, autosomal and X-linked hereditary diseases.
- Mutations. Natural and artificial selection. Evolutionary theories. The genetic basis of evolution. Inheritance and environment.
- Biotechnology: recombinant DNA technology and its applications.
- Anatomy and physiology of animals and humans. Animal tissues. Anatomy and physiology of human body systems and their interactions. Homeostasis.
- Bioenergetics. The energy currency of cells: ATP. Oxidation-reduction reactions in living things. Energy processes: photosynthesis, glycolysis, aerobic respiration, fermentation.

### 4. Chemistry

- The constitution of matter: aggregate states of matter; heterogeneous and homogeneous systems; compounds and elements.
- · Ideal gas laws.
- Atomic structure: elementary particles, atomic number and mass number, isotopes, electronic structure of atoms of the elements.
- The periodic table of elements: groups and periods, transition elements. Periodic properties of elements: atomic radius, ionization potential, electron affinity, metals and non-metals. Relations between electronic structure, position in the periodic table and properties.



- Chemical bonds: ionic bonds, covalent and metallic bonds. Bond energy. Bond polarity. Electronegativity. Intermolecular bonds.
- Fundamentals of inorganic chemistry: nomenclature and main properties of inorganic compounds: oxides, hydroxides, acids, salts.
- Chemical reactions and stoichiometry: atomic and molecular mass, Avogadro's number, concept of mole and its applications, elementary stoichiometric calculations, balancing of simple reactions, types of chemical reactions.
- Solutions: solvent properties of water, solubility, the main ways of expressing the concentration of solutions.
- Equilibria in aqueous solutions.
- Elements of chemical kinetics and catalysis.
- Oxidation and reduction: oxidation number, the concepts of oxidising and reducing agents. Balancing of simple reactions.
- Acids and bases: concepts of acid and base. Acidity, neutrality and basicity of aqueous solutions. PH. Hydrolysis. Buffer solutions.
- Fundamentals of organic chemistry: bonds between carbon atoms; molecular, structural and displayed formulae; concept of isomerism. Aliphatic, alicyclic and aromatic hydrocarbons. Functional groups: alcohols, ethers, amines, aldehydes, ketones, carboxylic acids, esters, amides. Elements of nomenclature.

### 5. Mathematics

- Algebra and numerical sets: natural numbers, integers, rational and real numbers. Sorting and comparison, scales and scientific notation. Operations and their properties. Proportions and percentages. Powers with whole and rational exponents and their properties. Roots and their properties. Logarithms (base 10 and base e)) and their properties. Elements of combinatorics. Algebraic and polynomial expressions. Special products, nth power of a binomial, factorisation of polynomials. Algebraic fractions. First and second-degree algebraic equations and inequalities. Systems of equations.
- Functions: basic concepts of functions and their graphical representations (domain, codomain, sign, continuity, maxima and minima, increasing and decreasing, etc.). Elementary functions: whole and fractional algebraic functions, exponential, logarithmic and trigonometric functions. Composite functions and inverse functions. Trigonometric equations and inequalities.
- Geometry: polygons and their properties. Circle and circumference. Measurement of length, area and volume. Isometries, similarities and

equivalences in the plane. Geometric loci. Measurement of angles in degrees and radians. Sine, cosine, tangent of an angle and their significant values. Trigonometric formulas. Solving triangles. Cartesian reference system in a plane. Distance between two points and the midpoint of a segment. Equation of a line. Concepts of parallel and perpendicular. Distance of a point from a straight line. Equation of the circle, parabola, hyperbola, ellipse and their representation in the Cartesian plane. Theorem of Pythagoras. First and second theorems of Euclid.

• Probability and statistics: frequency distributions and their graphic representation. Concepts of random experiment and event. Probability and frequency.

# 6. Physics

- Physical quantities and their measurement: fundamental and derived physical quantities. International System of Units and Technical System of Units. Multiples and submultiples. Scientific notation. Main conversions of units of measurements from one system to another. Scalar and vector quantities. Vectors and operations on vectors.
- Kinematics: description of motion. Velocity and angular velocity, acceleration and centripetal acceleration. Uniform rectilinear motion, uniformly accelerated motion, uniform circular motion, harmonic motion.
- Dynamics: forces as interactions between bodies. Force as applied vectors. Principle of inertia. Mass and the 2nd law of motion. Examples of forces: weight force, elastic force, static and dynamic friction. Action and reaction: the 3rd law of motion. Impulse and momentum. Principle of conservation of momentum. Momentum of a force and angular momentum. Work and kinetic energy. Conservative forces and potential energy. Principle of conservation of mechanic energy. Power.
- Fluid mechanics: density and compressibility of fluids. Gases and liquids. Hydrostatics: pressure, Archimedes' principle, Pascal's principle, Stevin's law. Fluid dynamics: one dimensional motion, flow and flow rate, continuity equation. Ideal fluids and Bernoulli's equation. Viscous forces in real fluids.
- Thermodynamics: equilibrium, temperature and thermometers. Heat and calorimetry. Mechanisms of heat propagation. Heat capacity and specific heat. Changes of state and latent heat. Ideal gas laws. First and second law of thermodynamics.
- Electricity and electromagnetism: electric charges. Forces between charges, Coulomb's law. Electric field and potential, equipotential surfaces. Dielectric constant, capacitance, capacitors. Electrostatic energy. Capacitors in series and in parallel. Generators. Electric tension. Electric current. Resistivity,

resistance, resistors. Ohm's law. Resistors in series and in parallel. Kirchhoff's laws. Work, power and Joule effect. Continuous and alternating current. Frequency and period. Magnetic field of an electric current. Forces on electric currents in magnetic fields. Electromagnetic induction.



Annex B - List of language certificates recognised pursuant to art. 3, paragraph 6, subpart b) of Ministerial Decree no. 1082 of 7 August 2023

Certification body	Level	English certificate for the 4 linguistic skills
Cambridge English Language Assessment	C2	Cambridge English: Proficiency (CPE)
	C1	Cambridge English: Advanced (CAE) Cambridge English: Business Higher (BEC Higher)
	B2	Cambridge English: First (FCE) Cambridge English: Business Vantage (BEC Vantage)
City and Guilds (Pitman)	C2	Level 3 Certificate in International ESOL Diploma Mastery C2
	C1	Level 2 Certificate in International ESOL Diploma Expert C1
	B2	Level 1 Certificate in International ESOL Diploma Communicator B2
	C2	PTE General Level 5 Proficient
Edexcel/Pearson Ltd	C1	PTE General Level 4 Advanced
	B2	PTE General Level 3 Upper Intermediate
EDI (LCCIEB)	C1	JETSET Level 6 English for Business Level 4
	B2	JETSET Level 5 English for Business Level 3 English for Commerce Level 3
	C2	IELTS band 8.5 - 9.0
IELTS	C1	IELTS band 7.0 - 8.0
	B2	IELTS band 5.5 - 6.5
	C2	Integrated Skills in English (ISE) IV
TCL Trinity College London	C1	Integrated Skills in English (ISE) III
	B2	Integrated Skills in English (ISE) II
TOEFL ETS	C1	TOEFL score 110-120
	B2	TOEFL score 87-109

Possession of a language certificate is automatically recognised to students who attended a school taught in English for at least one school year.