

University of Milan

COMPETITION FOR ADMISSION TO THE SINGLE CYCLE DEGREE COURSE IN MEDICINE AND SURGERY (Class LM-41) IN ENGLISH

Academic Year 2011/2012

REQUIREMENTS AND PROCEDURES (RECTOR'S DECREE NO. 274491 OF JULY 15, 2011)

Art.1 Requirements for admission

Candidates with a High School leaving certificate or a qualification taken abroad which is valid in accordance with the ministerial provisions of the MIUR (Italian Ministry for University) circular 602 dated 18 May 2011, are admitted to the competition.

Art. 2 Number of places available

The number of places available is 30 plus 20 for non-EU candidates resident abroad.

Art. 3 Candidates resident in Italy

3.1 Candidates resident in Italy with a qualification obtained in Italy

Candidates resident in Italy in possession of a **qualification obtained in Italy** must enrol for the test from **15 JULY 2011 to 29 AUGUST 2011** (12 noon) as indicated below:

- make payment of the contribution of € 50.00 in a branch of the bank Intesa Sanpaolo using payment form 'Codice 1', available at www.unimi.it - click: *SEGRETERIE STUDENTI - moduli di pagamento - contributo per l'iscrizione alle prove di ammissione ai corsi di laurea ad accesso programmato - cod 01*; fill in the form 01; indicate "International Medical School"; the bank will issue a receipt with an authorisation code;
- complete COMPULSORY enrolment via web at www.unimi.it - click: *SERVIZI ON-LINE SIFA - servizi on line - servizi di ammissione - ammissione ai corsi con accesso programmato*; fill in the form.

The following personal data must be entered:

tax code,
name and surname,
place and date of birth,
chosen degree course (International Medical School),
High School qualification obtained,
Institute and final mark obtained,
residence,
address,
details of the identity document with which you will be identified on the day of the test (which must be valid at that date).

REMEMBER: USE ALWAYS THE SAME IDENTITY DOCUMENT!

The procedure will issue a receipt (request for admission), which must be given to the commission on the day of the test.

This receipt is the only document proving that enrolment has been made for the admission test. Entering untrue data will lead to exclusion from the final classification.

3.2 Candidates resident in Italy with a qualification obtained abroad

Candidates resident in Italy in possession of a **qualification obtained abroad** must enrol for the test from **15 JULY 2011** to **29 AUGUST 2011** (12 noon) as indicated below:

- make payment of the contribution of € 50.00 in a branch of the bank Intesa Sanpaolo using payment form 'Codice 1', available at www.unimi.it - click: *SEGRETERIE STUDENTI - moduli di pagamento - contributo per l'iscrizione alle prove di ammissione ai corsi di laurea ad accesso programmato - cod 01*; fill in the form 01; indicate "International Medical School"; the bank will issue a receipt with an authorisation code;
- complete COMPULSORY enrolment via web at www.unimi.it - click: *SERVIZI ON-LINE SIFA - servizi on line - servizi di ammissione - ammissione ai corsi con accesso programmato*; fill in the form.

The following personal data must be entered:

1. tax code,
2. name and surname,
3. place and date of birth,
4. chosen degree course (International Medical School),
5. High School qualification obtained,
6. Institute and final mark obtained,
7. residence,
8. address,
9. details of the identity document with which you will be identified on the day of the test (which must be valid at that date).

REMEMBER: USE ALWAYS THE SAME IDENTITY DOCUMENT!

At the end of the on-line registration, the procedure will issue a receipt which must be given to the **International Students' Office (via Santa Sofia, 9/1, 20122 Milan, Italy)** with the documents indicated below by **12.00 midday on 29 August 2011** otherwise the candidate will be excluded from the course:

1. High School leaving certificate translated into Italian, legalised by the authorities of the country issuing the certificate and accompanied by the Certificate of Equivalence of Qualification (Dichiarazione di Valore);
2. Certificate of enrolment in the university with the list of the exams taken or Higher Education certificate taken in a non-university higher education institute if the local system involves less than 12 years of schooling;
3. Certificate of academic eligibility if available in the country of origin;
4. Copy of the valid residence permit (only for non-EU citizens).

The office will issue the admission application which must be given to the exam commission on the day of the test.

Candidates who intend to take part in the admission test in an overseas centre must send a specific request via mail by 29 August 2011 to the following email address of the procedure manager: giuseppe.boffi@unimi.it

The reference of the mail must specify name, surname and competition for Medicine in English (International Medical School).

Art. 4 Candidates resident abroad

4.1 EU Candidates resident abroad must complete the form attached to this Notice and send it to the Università degli Studi di Milano (Ufficio studenti internazionali) **by 29 August 2011** in one of the following ways, **otherwise the candidate will be excluded from the course**:

- by post to Università degli Studi di Milano (Segreteria Studenti, Ufficio studenti internazionali) Via Festa del Perdono 7, 20122 Milan, Italy;
- by certified e-mail to unimi.mi.info@pa.postacertificata.gov.it
- by fax to +39 02 50313729
- by e-mail to mastersdegree.admission@unimi.it

The following documents must be attached to the application, otherwise the candidate will be excluded from the course:

1. Receipt for payment of the contribution to admission of € 50.00 to be made by bank credit transfer to current account No. 463971, Banca Intesa Sanpaolo, Italian Banking Association code 03069, Bank Routing (CAB) code 09400, CIN G, IBAN IT97G030 6909 4000 0000 0463 971 (SWIFT code BCITIT33100), in the name of Università degli Studi di Milano (reason for payment: admission to degree course Medicine in English);
2. High School leaving certificate, translated into Italian, legalised by the authorities of the Country issuing the certificate and accompanied by the Certificate of Equivalence of Qualification (Dichiarazione di Valore);
3. Certificate of enrolment in the University with the list of the exams taken or Higher Education certificate taken in a non-university higher education institute if the local system involves less than 12 years of schooling;
4. Certificate of academic eligibility if available in the country of origin;
5. Photocopy of the Identity Document

REMEMBER: USE ALWAYS THE SAME IDENTITY DOCUMENT!

After checking that the application and attached documents are in order, the International Students' Office will issue a confirmation receipt for the application. Incomplete applications will not be considered.

The receipt will be sent to the candidate via e-mail to the address indicated in the application for admission and must be handed to the exam commission on the day of the test.

4.2 NON-EU candidates resident abroad

NON-EU candidates resident abroad must make the application for pre-admission through the Italian diplomatic missions in the country of residence in conformity with current legislation and the provisions of MIUR circular 602 dated 18 May 2011.

Art. 5 Disabled candidates

The disabled candidate must specify any supporting material necessary in relation to his/her handicap and also any need for additional time to complete the tests, to be supported by an appropriate certificate issued by the public health structure responsible for the area, pursuant to Law 104/92, as amended by Law 17/99.

As far as students affected by dyslexia, certificated in accordance with Law 170/2010, are concerned, additional time equivalent to 30 per cent longer than that defined for the admission test is granted. The relative application must be presented to the Secretarial Office for Students of the Faculty of Medicine and Surgery, Via Santa Sofia 9/1, Milan, by the expiry date for this Notice of Competition (12 noon of 29 August 2011).

Art. 6 - Exam commission

The exam commission is appointed by the decision of the board of the Faculty of Medicine and Surgery. The commission will be assisted by lecturers and administrative staff for the supervision and identification of candidates while the tests are performed.

Art. 7 - Exam programme and assessment of the tests

The relative admission tests for access to the single-cycle degree course in Medicine and Surgery in English are prepared by the Ministry of Education, University and Research on the basis of the programmes as per Appendix A, which is an integral part of this Notice of Competition. The admission test consists of 80 (eighty) questions each with five possible answers. The candidate must choose just one, discarding the incorrect, arbitrary or least probable conclusions on the following subjects:

- General culture and logical reasoning (40 questions)
- Biology (18 questions)
- Chemistry (11 questions)
- Physics and Mathematics (11 questions)

The answer sheet also has a box alongside each question that the student must tick to indicate that he/she doesn't intend to answer, but only after carefully evaluating his/her competence. Once this choice has been made and the box ticked, it cannot be changed.

Account will be taken of the following criteria in the assessment of the test:

- a) 1 mark for every correct answer;
minus 0.25 marks for every incorrect answer;
0 marks for every answer not given;
- b) if there are equal marks, the marks obtained by the candidate for the solution of the questions on general culture and logical reasoning, biology, chemistry, physics and mathematics respectively will be considered in decreasing order;
- c) if there are still equal marks, the marks in the State exam at the end of the period of secondary education will be taken into consideration;
- d) if there are still equal marks, preference will be given to the younger student.

With reference to the number of places available for enrolments, candidates who have obtained a minimum threshold of twenty (20) will be admitted. The same minimum (20) must also be obtained by non-EU students resident abroad for admission.

Art. 8 - Admission test calendar

The admission test will be held on **9 September 2011** in the Teaching Sector in Città Studi, Milan (Settore didattico Città Studi - via Celoria - the actual number of the room shall be communicated on september 7 on www.unimi.it. Candidates must arrive at 10.00 am with a valid identity document for the identification procedure. Anyone who arrives without documents, documents which are not valid, or late will not be admitted to the test.

The test will start at 12.00 midday and a time of two hours will be allowed. Candidates will not be allowed to leave the exam room until 30 minutes before the end of the test.

Candidates will be arranged in the exam room by age, except for twins.

The room assigned can be consulted on www.unimi.it - Students, from 7 September 2011.

Candidates who have chosen to take part in the test in the foreign centre must be there at the time indicated in the web sites of MIUR (www.miur.it) and the university (www.unimi.it - Studenti) respectively. The test will start at 11.00 am.

The overseas centres of London and Cambridge where the test can be taken will be published by 22 August 2011 in the above sites.

A time of two hours has been assigned for the performance of the test.

Art. 9 – Procedural modalities of the test

An envelope containing the following will be given to each candidate at the time of the test:

- 1) a personal details form with a unique identification bar code that the candidate **is obliged to complete and sign**;
- 2) the questions for the admission test;
- 3) two answer sheets, each with the same identification bar code as that on the personal details form;
- 4) a sheet with the information below pre-printed:
 - the identification code of the test;
 - the address of the MIUR web site (www.accessoprogrammato.miur.it);
 - the personal keys (username and password) to access the reserved area of the site where an image of the student's answer sheet with the identification code, the assessment for each topic of the exam and the overall mark can be seen;
- 5) an empty envelope with a transparent window in which the student must put one of the two answer sheets considered valid at the end of the test.

Students interested in taking part in the test in the foreign centres must indicate the Italian university where they would like to enrol on the personal details form. Failure to give this indication will make enrolment impossible.

The candidate must respect the following indications during the test:

- only the black pen supplied to each candidate after identification must be used. Candidates will be able to correct just one answer (one only) already given to an answer, completely blacking out the box chosen previously and choosing another one. There must only be a tick in one of the five boxes for the relative mark to be attributed.
There is a small circle alongside each progressive number on the answer sheet; if the student is certain that he/she doesn't want to answer the question, he/she must tick the circle. This indication cannot be changed once made;
- the second answer sheet, which will not be corrected, must be annulled by barring the whole sheet;
- at the end of the test, the answer sheet to be corrected must be put into the empty envelope with a transparent window, **without folding it**. The envelope should be closed when the envelope is handed in. The envelope is given to the president or person in charge of the room in Italian universities for subsequent delivery to Cambridge Assessment. The envelope will be given to Cambridge Assessment staff in front of the university delegate in overseas centres;
- he/she must keep the pre-printed sheet with the identification code of the test, the address of the MIUR web site (www.accessoprogrammato.miur.it), and personal keys for access to the reserved area of the site.

Candidates will not be allowed to leave the exam room until 30 minutes before the end of the test.

The commission will annul tests in the following circumstances:

- a) the personal details sheet is included in the envelope;
- b) the envelope with the answer sheet is signed or marked by the candidate or a member of the commission.

In these cases, Cambridge Assessment will not mark the paper.

The commission is responsible for the following, in front of the candidate:

1. keeping the unused answer sheet annulled by the candidate;
2. the sheets with the questions for the test;
3. the personal details sheet.

The representative of the university in overseas centres will collect the material indicated in points 1, 2 and 3 above so that it can be kept with the files in the university.

At the end of the test, the president of the commission or room manager will arrange to:

- put all the envelopes with the answer sheets in one or more containers that must be closed in front of the candidates called on to check the integrity of the boxes before the start of the test or another two candidates chosen at random;
- sign the closing flaps on the container(s);
- invite the two students to sign the flaps.

Candidates cannot leave the room during the test, use handwritten notes or texts of any kind, calculators, mobile phones or any other item advised before the start of the test. Any candidate who breaches the above regulations or who copies all or part of the test will be excluded from the competition. The commission and the staff invigilating will check respect for the provisions and will have the right to take the necessary provisions arising from failure to observe them.

Art. 10 Enrolment

Enrolment will be in relation to the position in the classification, according to the number of places defined. The classification will be published via web on www.unimi.it - SIFA on-line services, Graduatorie di ammissione Corsi di laurea (Admission classification for degree courses). Candidates in a positive position must enrol **by the dates indicated in the margin of the classification**, following the procedure below:

- pay the first instalment in the branches of Intesa Sanpaolo using the 'Code 4' payment form available on www.unimi.it - SECRETARIAL OFFICE FOR STUDENTS - Payment forms. An authorisation code will be issued for use during enrolment, if requested;
- access the 'ENROLMENT' procedure on the web site www.unimi.it - SIFA on-line services, Enrolment and registration services, enrolment;
- enter all the data requested, including the day for the presentation of the documents in the Secretary's Office. The procedure will issue two copies of the application for enrolment.

The above procedures must also be followed by **students from another university** who must also attach the receipt for the transfer request to the application for enrolment.

Students from another course in this university must go to Enrolment desk to complete the procedure and hand in the transfer request, following the terms of the classification once their positive position in this has been ascertained. This will be sent to the secretary's office of the originating course as a matter of course.

Non-EU candidates resident abroad will be placed in a special classification which will be published in the International Students' Office. Candidates in a positive position in the classification must present the application for enrolment to the aforesaid office by the expiry date advised when the classification is published.

Art. 11 Manager for the procedure

Mr Giuseppe Boffi (Head of the Secretarial Office, Faculty of Medicine and Surgery, Sports Science and Specialisation Schools) is the person in charge of the procedure referred to in this Notice of Competition, pursuant to Law 241 dated 7 August 1990.

ATTACHEMENT For EU candidates resident abroad ONLY

**SINGLE CYCLE DEGREE COURSE IN MEDICINE AND SURGERY IN ENGLISH
ENROLMENT FORM FOR THE ADMISSION TEST**

**TO THE RECTOR
OF THE UNIVERSITY OF MILAN**

The undersigned asks to be enrolled in the SINGLE CYCLE DEGREE COURSE IN MEDICINE AND SURGERY IN ENGLISH

PERSONAL DATA

NAME

SURNAME

DATE OF BIRTH (day/month/year)

PLACE OF BIRTH Town

Country

RESIDENCE

Address

Postcode

Town

Country

Telephone

Email

NATIONALITY

HIGH SCHOOL LEAVING CERTIFICATE(S)

Examining body

Year exams taken

Name of school

Country

Exams with grades

CHOSEN VENUE FOR THE ADMISSION TEST (check the appropriate answer):

University of Milan :

UK (the venue will be communicated on August 22nd) :

DOCUMENTS TO ENCLOSE

1. Receipt for payment of the admission contribution of € 50.00 to be made by bank credit transfer to current account No. 463971, Banca Intesa Sanpaolo, Italian Banking Association code 03069, Bank Routing (CAB) code 09400, CIN G, IBAN IT97G030 6909 4000 0000 0463 971 (SWIFT code BCITIT33100), in the name of Università degli Studi di Milano (reason for payment: admission to degree course Medicine in English);
2. High School leaving certificate, translated into Italian, legalised by the authorities of the country issuing the certificate and accompanied by the Certificate of Equivalence of Qualification;
3. certificate of enrolment in the university with the list of the exams taken or Higher Education certificate taken in a non-university higher education institute if the local system involves less than 12 years of schooling;
4. certificate of academic eligibility if available in the country of origin;
5. photocopy of the passport.

Date (day/month/year)

SIGNATURE

The signature is obligatory otherwise the registration model will be annulled

Delivery of the registration form

The duly completed registration form and all the documents attached must be sent to the Università degli Studi di Milano by **29 August 2011** in one of the following ways:

- by post to the following address: Università degli Studi di Milano (Segreterie Studenti, Ufficio studenti internazionali) Via Festa del Perdono 7, 20122 Milan, Italy;
- by certified e-mail to unimi.mi.info@pa.postacertificata.gov.it
- by fax to +39 02 50313729
- by e-mail to the following address: mastersdegree.admission@unimi.it

Appendix A

PROGRAMMES FOR THE QUESTIONS IN THE ADMISSION TESTS FOR THE DEGREE COURSES IN MEDICINE AND SURGERY

General culture and logical reasoning

To complete reasoning logically, consistent with the introduction pronounced in a symbolic or verbal form through multiple choice questions also formulated with short propositions, discarding the incorrect, arbitrary or less probable conclusions.

The questions will also be on scientific non-fiction or fiction by classic or contemporary authors, or texts of current affairs from newspapers or general or specialist magazines; they will also be on cases or problems, including those of an abstract nature whose solution requires the adoption of different forms of logical reasoning.

Questions relating to knowledge of general culture considered while at school complete this area of assessment.

Biology

The chemistry of living things

The bio-elements. The biological importance of weak interactions. Properties of water. Organic molecules in living organisms and the respective functions. The role of enzymes.

The cell as the basis of life

Cellular theory. Cell size. Prokaryote and eukaryote cells.

Cell membrane and its functions.

Cell structures and their specific functions.

Cell reproduction - mitosis and meiosis. Chromosomes.

Animal tissues.

Bio-energetics

The energy value of cells - ATP. ransporters of energy - NAD, FAD.

Oxide-reduction reactions in living beings. Photosynthesis. Glycolysis. Aerobic respiration.

Fermentation.

Reproduction and inheritance

Life cycles. Sexual and asexual reproduction.

Mendelian genetics. Basic laws and applications.

Classical genetics: chromosome theory of inheritance, sexual chromosomes, chromosome maps.

Molecular genetics - DNA and genes, genetic code and its translation, protein synthesis. DNA of prokaryotes. The chromosome of the eukaryotes. Regulation of gene expression.

Human genetics - transmission of mono and multi-factorial features, hereditary diseases.

New frontiers of genetics - recombinant DNA and its possible bio-technological applications.

Inheritance and environment

Mutations. Natural and artificial selection. Evolutionary theories. The genetic bases of evolution.

Anatomy and Physiology of animals and man

Anatomy of the main apparatus and the respective functions and interactions.

Homeostasis. Hormonal regulation.

Nerve impulse. Transmission and elaboration of information.

The immune response.

Chemistry

Constitution of matter: the states of aggregation of matter, heterogeneous and homogeneous systems, compounds and elements.

The structure of the atom: elementary particles, atomic number and mass number, isotopes, electronic structure of the atoms of different elements.

The Periodic Table of elements: groups and periods, elements of transition, periodic properties of the elements - atomic radius, ionisation potential, electronegativity, metals and non-metals, relations between electronic structure, position in the Periodic Table and properties.

The chemical bond: ionic bond, covalent bond, bond polarity, electro-negativity.

Foundations of inorganic chemistry: nomenclature and main properties of inorganic compounds - oxides, hydroxides, acids, salts, position in the Periodic Table.

Chemical reactions and stoichiometry: atomic and molecular weights, Avogadro constant, the mole concept, conversion from grams to mole and vice versa, elementary stoichiometric calculations, balancing simple reactions, various types of chemical reactions.

Solutions: solvent properties of water, solubility, main ways of expressing the concentration of solutions.

Oxidation and reduction: oxidation number, concept of oxidant and reducing agent.

Acids and bases: concepts of acids and bases, acidity, neutrality, basicity of aqueous solutions, pH.

Foundations of organic chemistry: links between carbon atoms, rough structure and rational formulae, isomeric concept, aliphatic, alicyclic and aromatic hydrocarbons, functional groups - alcohols, ethers, amines, aldehydes, ketones, carboxylic acids, esters, amides.

Physics

Measurements: direct and indirect measurements, basic and derived size, physical dimensions of size, knowledge of the decimal metric system and the CGS, Technical (or Practical) (TS) and International (IS) Units of Measurement Systems, units of measurement (names and relations between basic and derived units), multiples and sub-multiples (names and values).

Kinematics: kinematic size, various types of motion with special attention to uniform and uniformly accelerated rectilinear motion, uniform circular motion, harmonic motion (for all types of motion - definition and relations between connected kinematic size).

Dynamics: vectors and operations on vectors. Force, moments of force with respect to a point. Vectorial composition of force. Definitions of mass and weight. Acceleration of gravity. Density and specific weight. Law of universal gravitation, 1st, 2nd and 3rd laws of dynamics. Work, kinetic energy and potential energy. Law of energy conservation.

Fluid mechanics: pressure and its units of measurement (not just in the IS system). Archimedes' principle. Pascal's law. Stevino's law.

Thermodynamics: thermometry and calorimetry. Specific heat, heat capacity. Mechanisms for the propagation of heat. Changes of state and latent heat. Ideal gas laws. First and second principle of thermodynamics.

Electrostatics and electrodynamics: Coulomb's law. Electric field and potential. Dielectric constant. Capacitors. Series and parallel capacitors. Direct current. Ohm's law. Electrical resistance and resistivity, Series and parallel electrical resistance. Work, Power, Joule effect. Generators. Electromagnetic induction and alternating current. Effects of electrical current (thermic, chemical and magnetic).

Mathematics

Algebra and numerical sets: natural, whole, rational and real numbers. Sorting and comparison, size order and scientific notation. Operations and their properties. Proportions and percentages. Powers with whole and rational exponents) and their properties. Roots and their properties. Logarithms (on a base of 10 and base of e) and their properties. Notes on combinatorics. Algebraic and polynomial expressions. Significant products, power to the n of a binomial, factorisation of polynomials. Algebraic fractions. Algebraic equations and inequalities of first and second degree. Equations systems.

Functions: fundamental notions of functions and their graphic images (domain, codomain, signum, maxima and minima, increasing and decreasing, etc.). Elementary functions: whole and fractional algebraic functions, exponential, logarithmical, and goniometrical. Compound and inverse functions. Equations and goniometric inequality.

Geometry: polygons and their properties. Circumference and the circle. Measurement of length, surface and volume. Isometry, similitude and equivalence on the plane. Geometrical places. Measurement of angles in degrees and radians. Sine, cosine and tangent of an angle and their significant figures. Goniometric formulae. Resolution of triangles. Cartesian Co-ordinate System in a plane. Distance of two points and the midpoint of a segment. Equation of a straight line. Conditions of parallelism and perpendicularity. Distance of a point from a straight line. Equations of the circumference, parabola, hyperbola and ellipse and their representation in the Cartesian plane. Pythagoras' Theory.

Probability and statistics: distribution of frequency according to type of character and main graphic descriptions. Notion of random experiment and event. Probability and frequency.