

**THE TAMIL NADU Dr. M.G.R. MEDICAL
UNIVERSITY, CHENNAI -600 032**

REGULATIONS OF THE UNIVERSITY

In exercise of the powers conferred by Section 44 of the Tamil Nadu Dr.M.G.R.Medical University, Chennai Act 1987 (Tamil Nadu Act 37 of 1987) the Standing Academic Board of the Tamil Nadu Dr.M.G.R.Medical University, Chennai hereby makes the following regulations:-

SHORT TITLE AND COMMENCEMENT:-

These regulations shall be called as “**THE REGULATIONS FOR THE MASTER OF SCIENCE (EPIDEMIOLOGY) OF THE TAMIL NADU Dr. MGR MEDICAL UNIVERSITY, CHENNAI**”.

They shall come into force from the academic year 2011-2012 onwards.

The Regulations and the Syllabus framed are subject to modification by the Standing Academic Board from time to time.

REGULATIONS

1. ELIGIBILITY:

The candidates who possess Degree in the following are eligible to get admitted into the course of M.Sc. (Epidemiology):

1. MBBS
2. M.Sc. (Nursing)
3. M. Pharmacy
4. M.Sc. (Bio-Statistics /Statistics)
5. M.Sc. (Nutrition)
- 6.M.Sc.,
(Biochemistry/Anatomy/Physiology/Pharmacology/Microbiology
and other Medical related areas)
7. BDS
8. BVSc.
9. BAMS
- 10.BUMS

- 11.BHMS
- 12.BSMS
- 13.MPT
- 14.MOT

2. PHYSICAL FITNESS CERTIFICATE

Every candidate before admission to the course shall submit to the Principal of the Institution, a Certificate of Medical Fitness from an Authorised Medical Officer that the candidate is physically fit to undergo the academic course and does not suffer from any disability or contagious disease.

3. ELIGIBILITY CERTIFICATE

The candidate who has passed any qualifying examination as stated in Regulation No.1 above other than the Tamil Nadu Dr. MGR Medical University, Madurai Kamaraj University, University of Madras, Bharathiyar University, Bharathithasan University or any other University shall obtain an "Eligibility Certificate" from this University by remitting the prescribed fee along with the application form and required documents before seeking admission to anyone of the affiliated medical institutions. The application form is available in the University website (www.tnmmu.ac.in)

4.REGISTRATION:

A Candidate admitted in the Master of Science(Epidemiology) course in any one of the affiliated institutions of this University shall register his / her name in the prescribed application form for registration duly filled, along with the prescribed fee and declaration taking in the format, as in Annexure I. The application for registration is to be submitted to the Controller of Examinations through the affiliated institutions within 60 days from the cut-off date prescribed for admission.

5. DURATION OF THE COURSE :

- a. The period of certified study and training of the M.Sc.,(Epidemiology) course shall be two academic years for award of degree.
- b. No exemption shall be given from this period of study and training for any other experience gained prior to the admission of the course.

6. COMMENCEMENT OF THE COURSE:

The course shall commence from May 1st and October 1st of the academic year and the candidates admitted upto May 31st and October 31st will be registered for the course.

*****It was resolved XXXXIII dt.19.12.2011**

7. COMMENCEMENT OF THE EXAMINATIONS:

15th April/ 15th October

*****It was resolved XXXXIII dt.19.12.2011**

If the date of commencement of examination falls on Saturdays / Sundays or declared Public Holidays, the examination shall begin on the next working day. The University paper will be awarded for 100 marks and Internal 50 marks.

8. CUT-OFF DATE FOR ADMISSION TO EXAMINATIONS:

The candidates admitted upto 31st May and 31st October shall be registered to take up their First Year examinations after fulfillment of the regulations from April of the next year.

All kinds of admissions shall be completed on or before 31st May and 31st October of the academic year. There shall not be any admissions after 31st May and 31st October , even if seats are vacant.

*****It was resolved XXXXIII dt.19.12.2011**

9. CURRICULUM :

The Curriculum and the syllabus for the course shall be as prescribed by the Standing Academic Board from time to time.

10. MEDIUM OF INSTRUCTION:

English shall be the Medium of Instruction for all the Subjects of study as for examinations of the M.Sc.,(Epidemiology) course.

11. WORKING DAYS IN THE ACADEMIC YEAR:

Each academic year shall consist of not less than 270 working days

Total No. of days in a year	365 days
No. of weekly off(Sundays) -	52 days
No. of Government Holidays -	22 days
No. of Holidays	- 21 days

	95 days

Total No. of working days including examination period	270 days

12. ATTENDANCE REQUIRED FOR ADMISSION TO EXAMINATIONS:

(a) No candidate shall be permitted to appear in any one of the parts of M.Sc. (Epidemiology) course in Examinations unless he/she has attended the course in all the subjects for the prescribed period in an affiliated institution recognized by this University and produce the necessary certificate of study, attendance and satisfactory conduct from the Head of the institution.

(b) A candidate is required to put in a minimum of 90% of attendance out of 270 working days in both theory and practical separately in each subject before admission to the examinations. This 270 working days of attendance is required for Non clinical specialities (Anatomy, Physiology, Biochemistry, Pathology, Pharmacology, Microbiology, Forensic Medicine and Community Medicine)

(c) A candidate lacking in the prescribed attendance and progress in any one subject in theory and practical wherever necessary in the first appearance shall not be permitted for admission to the entire examinations.

13. CONDONATION OF LACK OF ATTENDANCE:

There shall be no condonation of lack of attendance.

14. SCHEME OF EXAMINATION

M.Sc., EPIDEMIOLOGY (TWO YEARS)

Ist Year	Theory Paper	IA		Theory		Practical		Viva	
		Max	Min	Max	Min	Max	Min	Max	Min
PAPER I	Principles of Epidemiology and Bio-statistics	50	25	100	50	100	50	50	25
PAPER II	Epidemiology of Diseases of Public Health Importance and Disease Control	50	25	100	50				
PAPER III	Epidemiological methods in Health Management	50	25	100	50				

FIRST YEAR EXAMINATIONS:- THEORY AND PRACTICALS

1. If a candidate fails in practical/Viva he/she has to write BOTH the practical/Viva as well as the three theory subjects.
2. If a candidate fails in any one of the theory papers he/she has to write BOTH the practical /Viva as well as the three theory subjects.

2nd Year	Subjects	Marks
	Dissertation	200
	Oral on Dissertation	50
	IA	50
	Total	300
	Passing Minimum	150

QUESTION PAPER PATTERN

	No. of questions	Marks per question	Total Marks
Essays	2	20	40
Short Notes	10	6	60
Total			100

15. INTERNAL ASSESSMENT MARKS:

Marks for Internal Assessment will be given by the H.O.D. Three times a year.

16. DISSERTATION

a. A candidate shall present and defend his/her dissertation at the end of the second year of his/her study and shall be subjected to a Viva-Voce on his/her dissertation.

b. "The Dissertation/thesis shall be a bound volume of minimum 50 pages and not exceeding 75 pages of typed matter(Double line spacing and on one side only) excluding certification, acknowledgments, annexures and Bibliography.

c. 4 copies of dissertation shall be submitted 2 months prior to the commencement of the examination on the prescribed date to the Controller of Examination of this University.

17. EVALUATION OF DISSERTATION:

Evaluation will be at the time of examination during which marks are given. 200 Marks for dissertation , 50 marks for Viva/Presentation and 50 marks for IA. Minimum passing mark is 150.

***It was resolved XXXXIII dt.19.12.2011

18. MARKS QUALIFYING FOR A PASS:

A candidate shall be declared to have passed the examination if he/she obtains the following qualifying marks:-

Theory	:	50%
Practical	:	50%
IA	:	50%
Over all	:	50%

19. REVALUATION OF ANSWER PAPERS:

Revaluation of the answer papers of the failed candidates in any Post-Graduate examination is not permitted.

20. TRAINING IN OUTSIDE CENTRES:

During the second year, the candidates shall work on their Dissertation/Thesis, after approval of the protocol by the Guide and the Head of the Department. The H.O.D. of the Epidemiology shall write to the Colleges/Institutions having facilities for Project Work and get their consent in writing and then make necessary arrangements for deputing the students under intimation to the Controller of Examinations. Such Project Work done by a student shall be certified by the Supervisor and Head of the such Institution and forwarded to the H.O.D., who will send it to the Controller of Examinations through proper channel.

The attendance will be forwarded directly to the Controller of Examinations under intimation to the H.O.D.

21. MAINTENANCE OF LOG BOOK:

- a) The candidate should participate in the teaching and training programme of Under-graduate students.
- b) In addition, the Head of the Department shall involve their Post-graduate candidates in Seminars, Journal club meets, Conferences, Group Discussions, etc.
- c) During the second year, the candidate shall maintain a log book of activities in connection with the dissertation
- d) The Head of the Department shall scrutinize and certify the Log Book once in every three months
- e) At the end of the course, the candidate should summarize the contents and get the Log Book certified by the Head of the Department
- f) The Log Book should be submitted at the time of practical examination for the scrutiny of the Examiners.

22. NUMBER OF APPEARANCES:

- a) A candidate registered for Two Years Post Graduate Degree Course must qualify in the Examinations within four years of the date of his/her admission.
- b) The Candidate should submit a certificate of study and training from the H.O.D. to the Controller of Examinations along with his/her application for every subsequent examination.
- c) However, a candidate may be permitted to undergo a further period of study and training of minimum six months duration in a recognized Post-Graduate Department in the Speciality in an Institution affiliated to this University.
- d) Part – II can be attempted only one year after appearing for Part – I. The candidate must have cleared Part – I before appearing for thesis defence.

e) If the candidate does not complete Part – I in three years, he/she will not be eligible to continue.

f) The candidates will not be permitted to appear for more than 5 attempts in the final examinations and shall be discharged from the course if he/she fails to pass Examination in the said number of attempts.

23. DURATION FOR COMPLETION OF THE COURSE OF STUDY:

The duration for the completion of the course shall be fixed as double the time of the course and the students have to pass within the said period otherwise they have to get fresh admission.

24. **AWARD OF DISTINCTION AND RANKS:**

Distinction will be awarded to successful candidates who secure 75% marks or more as a course aggregate without any failure.

The names of these candidates at the end of the course will be published in the Tamil Nadu Govt. Gazette. Also the details will be published in the University website.

25. RE-ADMISSION AFTER BREAK OF STUDY:

Please refer to the Separate Regulations for Re-admission after break of study for all courses.

26. MIGRATION/TRANSFER OF CANDIDATES:

Migration/Transfer of candidates from one recognized college to another recognized college of this University or from another University shall not be granted.

27.VACATION:

There is no vacation.

28. AWARD OF MEDALS AND PRIZES:

The University shall award at its Convocation, Medals and prizes to outstanding candidates as and when instituted by the donors as per the schedule prescribed for the award.

29. AUTHORITY TO ISSUE TRANSCRIPT:

The University shall be the Authority for issuing Transcript after remitting the prescribed fee or as may be prescribed from time to time.

CURRICULUM

M.Sc. in Epidemiology

I. Epidemiology

(i) Epidemiological measures of disease frequency

- __ rates, ratio, proportion
- __ Incidence (incidence density, risk) and prevalence
- __ Measures of mortality

(ii) Errors in measurements

- __ Reliability (measures of agreement)
- __ Validity (accuracy)

(iii) Natural history of diseases

- __ Incubation, period, communicability, Pathogenicity
virulence,
Immunogenicity

(iv) Screening in health and ascertainment of validity of diagnostic test:

- __ sensitivity, specificity, predictive values likelihood ratios, ROC curves

(v) Causal thinking in health

- __ deterministic model, stochastic model, modified deterministic model, Bradford Hill's criteria for establishing causal association from observational studies

(vi) Measures of association and potential impact:

- __ Relative risk, odds ratio
- __ Attributable risk, etiologic fraction
- __ Additive & multiplicative models
- __ Interaction

(vii) Epidemiological study designs:

a) Experimental designs

- i. Clinical trials
- ii. Field trials
- iii. Community intervention trials
- iv. Non Randomised study**

b) Observational designs

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- i. Cohort studies
- ii. Case control studies
- iii. Cross sectional studies
- iv. Mixed designs
- v. Ecological studies
- vi. Space / time cluster studies

(viii) Decision Analysis

- __ Decision tree
- __ Test strategies
- __ Multiple tests
- __ Sensitivity Analysis

(ix) Epidemiology of diseases of national importance **including National Programmes**

- __ ARI
- __ Diarrhoea
- __ Vaccine preventable disease
- __ Tuberculosis / Leprosy
- __ Visual Impairment

- __ Malaria
- __ Filariasis
- __ HIV
- __ STD
- __ Coronary Heart Disease
- __ Malignancy
- __ Malnutrition
- __ Diabetes mellitus
- __ **Newer & Emerging Infectious Diseases**
- __ **Lifestyle Disease – Obesity**
- __ **Mental Health**

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II. Bio-statistics

(i) Measures of central tendency and dispersion

- __ mean, mode and median
- __ variance standard deviation & co-efficient of variation,
H. spread

(ii) Probability Theory

(iii) Probability Sampling

- Sampling Techniques

(iv) Probability Distribution

- __ Binomial, Poisson, Normal
- __ Standard normal curve

(v) Estimation of population parameter from sample

- __ standard error
- __ confidence interval

(vi) Direct and indirect standardization

(vii) Sample size calculation

- for estimation
- for comparison

(viii) Tests of significance

- Parametric (t-test, test of proportion test for difference of means)
- Non parametric (Mann – Whitney, Wilcoxins, Chi-square)

(ix) Analysis of variance

- One way ANOVA
- Two way ANOVA

(x) Generalized linear models

- linear, loglinear and logistic models

(xi) Survival Analysis

- **Life table (construction and uses)**

(xii) Times Series

Analysis III Demography

(i) Age sex distribution of population:

- population pyramid
- sex ratio, dependency ratio
- factors affecting demographic profile (fertility, mortality and immigration)

(ii) Measures of fertility

- crude birth rate, child woman ratio, general fertility rate, age specific fertility rate, total fertility rate, gross reproduction rate, net reproduction rate

(iii) Factors affecting fertility

(iv) Measures of mortality

- __ crude death rate
- __ age specific death rate
- __ SMR

(v) Sources of demographic data

- __ registration of vital events
- __ sample surveys
- __ census

(vi) Demographic transition

- __ rate of natural increase
- __ doubling time &

projections IV. Environmental Health

(i) Environmental factors that can affect health :

- __ physical
- __ chemical
- __ biological

(ii) Measurement of exposure to physical and chemical agents

(iii) Prevention of environmental pollution

(iv) Injury control in working environment

(v) Epidemiology of road traffic accidents

V. Behavioral Science

- (i) Formation and structure of a society
- (ii) Cultural practices and the effect on health and illness behaviour
- (iii) Life styles and the effect on health
- (iv) **Behavioral Change Communication (BCC)**
 - methods
 - barriers
 - health education
- (v) Effect of social changes on health status