



SYLLABUS

Course Title	JOURNAL CLUB
Course Code	MPG301
Course Credit	01
Instructions:	
<ol style="list-style-type: none">1. All the Students shall undertake a project under the supervision of a teacher in semester III and IV and submit a report.2. 4 Copies of the project report shall be submitted (typed and bound copy not less than 75 pages).3. The internal and external examiner appointed by the University shall evaluate the project at the time of the Practical examinations of semesters.4. The Projects shall be evaluated as per the criteria given in PCI regulation.	



SYLLABUS

Course Title	DISCUSSION/PRESENTATION
Course Code	MPG302
Course Credit	02
Instructions:	
<ol style="list-style-type: none">1. All the Students shall undertake a project under the supervision of a teacher in semester III and IV and submit a report.2. 4 Copies of the project report shall be submitted (typed and bound copy not less than 75 pages).3. The internal and external examiner appointed by the University shall evaluate the project at the time of the Practical examinations of semesters.4. The Projects shall be evaluated as per the criteria given in PCI regulation.	

Course Title	RESEARCH WORK
Course Code	MPG303
Course Credit	14
Instructions:	
<ol style="list-style-type: none">1. All the Students shall undertake a project under the supervision of a teacher in semester III and IV and submit a report.2. 4 Copies of the project report shall be submitted (typed and bound copy not less than 75 pages).3. The internal and external examiner appointed by the University shall evaluate the project at the time of the Practical examinations of semesters.4. The Projects shall be evaluated as per the criteria given in PCI regulation.	

Course Title	RESEARCH METHODOLOGY AND BIOSTATISTICS	
Course Code	MRM301T	
Course Credit	Lecture	04
	Tutorial	00
	Total	04
Course Objectives		
<p>This subject will provide the meaning of the research, its type and purpose with importance of literature survey from authenticated sources. It will guide the students to identify the problem and design the research proposal along with its cost effectiveness and the idea about sources from which research grants can be procured. It will help students to select the proper method of research (quantitative, qualitative, questionnaire, etc) and documentation with their importance. Biostatistics will help students analyze their results and compare them to find out significance of their results by various methods. The course also provides guidelines for thesis writing starting from abstract to references and about important skills required for its presentation (oral or poster).</p>		
Detailed Syllabus - Theory		
Sr. No.	Name of Chapter & Details	Hours Allotted
1	General Research Methodology: Research, objective, requirements, practical difficulties, review of literature, study design, types of studies, strategies to eliminate errors/bias, controls, randomization, crossover design, placebo, blinding techniques.	12
2	Biostatistics: Definition, application, sample size, importance of sample size,	12

	factors influencing sample size, dropouts, statistical tests of significance, type of significance tests, parametric tests (students “t” test, ANOVA, Correlation Coefficient, regression), non-parametric tests (Wilcoxon rank tests, Analysis of variance, correlation, chi square test), null hypothesis, P values, degree of freedom, interpretation of P values.	
3	Medical Research: History, values in medical ethics, autonomy, beneficence, non-maleficence, double effect, conflicts between autonomy and beneficence/non-maleficence, euthanasia, informed consent, confidentiality, criticisms of orthodox medical ethics, importance of communication, control resolution, guidelines, ethics committees, cultural concerns, truth telling, online business practices, conflicts of interest, referral, vendor relationships, Treatment of family members, sexual relationships, fatality.	12
4	CPCSEA guidelines for laboratory animal facility: Goals, veterinary care, quarantine, surveillance, diagnosis, treatment and control of disease, personal hygiene, location of animal facilities to laboratories, anesthesia, euthanasia, physical facilities, environment, animal husbandry, record keeping, SOPs, personnel and training, transport of lab animals.	12
5	Declaration of Helsinki: History, introduction, basic principles for all medical research, and additional principles for medical research combined with medical care.	12

Instructional Method and Pedagogy:

- Lectures will be conducted with the aid of multi-media projector, black board, OHP etc.
- Assignments based on course content will be given to the students at the end of each unit/topic and will be evaluated at regular interval.
- Surprise tests/Quizzes/Seminar/Tutorials will be conducted.
- The course includes language practices such as Group Discussion, Interviews etc to develop the communication skills of the students.

Reference Books

1. Research in education – John W. Best Jems V. Kahn
2. Methodology and techniques of social research – Wilkinson and Bhandarkar
3. Presentation skills – Michel Halton – Indian society for institute education
4. Practical introduction to copyrights – Gavin Mofariane
5. Thesis projects in sciences and engineering – Richard M. Devis
6. Scientist in legal system – Ann Labor Science
7. Thesis and assessment writing – Janolthon Anderson
8. Writing a technical paper – Donald Manzel
9. Effective business report writing – LeI and Brown
10. Protection of industrial property rights – Purshottam Das and Gokul Das.
11. Spelling for millions – Edna Furrness.
12. Ayurveda and modern medicine – R. D. Lele.
13. How to write and publish a scientific paper – Robert A. Day Cambridge University Press 4th edition 1994.
14. Business statistics - J K Sharma, PHI publication.
15. Introduction to Statistical Methods- C. B. Gupta.
16. A first course in Mathematical Statistics- C. E. Weatherborn.
17. Introduction to Biostatistics-Mahajan.

Additional Resources

- Soft copies of books title bearing research methodology are available on <http://www.pharmatext.org>
- Latest information regarding to research methodology updates are available on <http://www.pharmainfo.net>