Trends and Contemporary Issues in Statistics

Course code: EDBER358 **Credit Hours: 3**

Capsule Statement

The field of statistics is the science of learning from data. Statistical knowledge helps you use the proper methods to collect the data, employ the correct analyses, and effectively present the results. Statistics is a crucial process behind how we make discoveries in science, make decisions based on data, and make predictions. Statistics allows you to understand a subject much more deeply. Statistics is crucial in modern society. The course on trend and contemporary issues in Statistics is offered for awareness about resent trends in statistics. The Contents may change from semester to semester as new research will emerge.

Learning Outcomes

On successful completion of the course, prospective teachers/novice researchers will be able to:

1. Understand the terms trend and issues with Suggested Readings to statistics
2. Know the role of recent trends and issues in statistics
3. Use of statistics in different fields
4. Use of statistics in educational Research
5. Aware of the new trends in statistics
6. Aware contemporary issues in statistics

Contents

1. Conceptual understanding of trends and issues
2. Randomization and bootstrapping: The quick way to inference
3. Using simulation/randomization to introduce p-value in week 1Re
4. Intuitive introduction to the important ideas of inference
5. Statistics for all students
6. Measuring university students' approaches to learning statistics: a cross-cultural and multilingual version of the ASSIST
7. A comparison of attitudes between traditional and hands-on classes in an introductory statistics course
8. Introductory statistics in the 21st century
9. Open data, civil society and monitoring progress: Challenges for statistics education
10. A Journey to Lifelong Statistical Literacy
11. Teaching statistics for engagement beyond classroom walls.
12. Taking statistical literacy to the masses with YouTube, blogging, Facebook and Twitter
13. Statistical literacy requirements for teachers
14. Developing statistical knowledge for teaching of variability through professional development

15. Teachers' views related to goals of the statistics classroom – from global to content-specific
16. Towards statistical literacy - relating assessment to the real world
17. Sufficiently assessing teachers' statistical literacy
18. Developing statistical literacy amongst in-service teachers through a collaborative project
19. Making sense of census data
20. More ways to Heaven than one: improving statistical literacy in Ireland
21. Statistics and probability curriculum development for future elementary teachers in Chile: collaboration among countries
22. Building strength from compromise: a case study of five-year collaboration between the Statistical Services Centre of the University of Reading, UK, and Maseno University, Kenya
23. Conducting successful cross-institutional research in statistics education
24. Peer learning in statistics beyond the University curriculum.
25. Teaching statistics through the law
26. Randomization-based statistical inference: A re-sampling and simulation infrastructure
27. Why *Teaching Statistics* is so important and challenging
28. Using an R shiny to enhance the learning experience of confidence intervals
29. The challenge of teaching statistics to non-specialists. *Journal of Statistics Education*

Assessment and Examinations

The students will be assessed according to the following criteria

Examination	Marks Distribution
Sessional Work	25%
Mid-Semester	35%
Final Semester	40%

Suggested Readings

ICOTS9 Conference Proceedings: 9th International Conference on Teaching Statistics.

Journal of Statistics Education: JSE is a publication of the American Statistical Association

Teaching Statistics: International Journal of Statistics.

Yilmaz, M. R. (1996). The challenge of teaching statistics to non-specialists. *Journal of Statistics Education*, *4*(1), 1-9.