

United States Conference on the Teaching of Statistics (USCOTS 2005)
Spotlight Session: Curriculum
Designing a suitable statistical curriculum in a mathematics department

Alfred Akinsete, PhD
Department of Mathematics, Marshall University
1 John Marshall Drive, Huntington, WV 25755

Abstract:

Designing a suitable statistics curriculum in a department of mathematics is a topical issue. A large number of dialogues, conferences and forums have been organized where various experts have discussed this issue extensively. Against the background of faculty interests and training, and the departmental needs, we review the available statistical courses in a mathematics department in an effort to have a strong statistics minor and major degree options.

A Brief Summary

The main purpose of this work is to design a statistics curriculum from a list of available statistics courses; actively taught and stale in a department of mathematics. Our hypothetical case considers a department of mathematics offering up to a masters' degree in mathematics. Although, there are a few number of courses in statistics at the undergraduate and graduate levels, there does not currently exist either a minor or major in statistics. However, efforts are being made to consolidate existing courses, design others if necessary, and design both minor and major degree options. Curriculum development in the academia is a dynamic process, capturing new trends and needs in the society in the areas of teaching, research, development, and services. For example, there is a need to reflect the use of technology in the teaching of statistics (and also in research) into a curriculum that was designed a decade ago in order to adequately handle the current large volumes of data. Experts agreed that curriculum should be revised every five years.

Curriculum Development

We attempt to answer the following questions:

- How do we develop both minor and major statistics degree options from the actively run and abandoned statistics courses that will better serve the need of students, and reflect the current trend and development in the field of statistics?
- If new courses are to be added, what are these courses?

Some References

- Franklin, C., (2000). Are our teachers prepared to provide instruction in statistics at the K – 12 levels? *Mathematics Education Dialogues*, www.nctm.org/dialogues/2000-10/
- <http://www.atm.org.uk/policyopinion/statistics14to19.html>
- <http://www.rss.org.uk/main.asp?page=2191>
- http://hobbes.lite.msu.edu/~IASE_2004_Roundtable/Summary_IASERoundtable.doc
- http://hobbes.lite.msu.edu/~IASE_2004_Roundtable/Abstract.doc
- http://www.maa.org/cupm/crafty/focus/cf_statistics.html