Statistics and Experimental Design, by Norman L. Johnson and Fred C. Leone. John Wiley and Sons, Inc., New York, 1964. Vol. I, xiii + 523 pages, $10.95; Vol. II, ix + 399 pages, $11.50.

Although written primarily for workers in the physical sciences and engineering, the level of presentation and extensive coverage of techniques make the volumes useful for anyone requiring a knowledge of statistical methods in other areas. After brief chapters on descriptive measures and probability, the first volume covers discrete and continuous distributions, order statistics, estimation, hypothesis testing, tests of significance, nonparametric tests, control charts, regression and correlation. A brief chapter discusses prior distributions, decisions and loss functions, and sampling costs. The major part of the second volume is devoted to analysis of variance. The remaining chapters deal with sequential analysis, multivariate observations (including the treatment of response surfaces) and finally sample structures.

The authors deliberately dispose of the concept of probability by defining it as the limit of the relative frequency and deduce the properties of the probability function on the basis of this definition. Basic concepts such as "event" and "random variable" also receive inadequate treatment. The potential user, with little prior knowledge of probability theory, would do well to supplement the work with the first few chapters of, for example, P.L. Meyer's "Introductory Probability and Statistical Applications" (Addison-Wesley, 1965). This however, should be taken as a minor criticism. The work is well-conceived, carefully developed, and abounds in a large number of worked-out problems. There are excellent lists of exercises at the ends of the chapters.

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Topological Structures, by W.J. Thron. Holt, Rinehart and Winston, Inc., New York, 1966. x + 240 pages. $9.00.

This text covers all the standard topics of general topology. After introductory remarks on set theory and ordered sets there is a brief discussion of various ways of defining a topological space. The author's development of the subject then starts with the open set axioms, the definitions by means of the closure operation and neighbourhood axioms being treated in later chapters. There follow chapters on subspaces, connectedness, bases of a topology, quotient spaces and product spaces. Convergence is described both by means of nets and filters, and the relation between the two concepts is discussed. Next come separation axioms, cardinality axioms, compactness and compactifications, metric and pseudometric spaces and uniform spaces, proximity spaces and topological groups. The last topic, which might appear unusual in a general topology text, is introduced as an illustration of the way in which topology can be combined with other structures.

As will be seen, this is, modulo variations due to personal preferences, the usual material for a first year graduate course in general