Introductory Statistic class content: Proposed to be approved at the Fall 2021 Math ATF

The idea of the curriculum is to not be real specific in some areas. An example is with descriptive statistics, the course must have measures of central tendency, but the types of measures are not specified. This is similar in other areas, such as probability and what types of inferential statistics tests are conducted. Probability should be taught but deemphasised. The other suggestion is that calculations should be conducted using statistical software and not using calculators and definitely not by hand. *z* and *t* tables should not be used any more or at least limited use. The following are the topics that should be in each introductory statistics. Prerequisite should be a course that demonstrates mathematical maturity. These courses count as prerequisites: College Mathematics (or quantitative reasoning, or liberal studies mathematics), College Algebra, Precalculus or higher. Intermediate Algebra can be used but there may be problems with articulation.

1. Descriptive statistics
    a. Measure of central tendency
    b. Measure of variability
2. Graphical statistical methods

3. Probability
    a. Conditional
    b. Independence
    c. Mutually exclusive

4. Distributions
    a. Binomial
    b. Normal
    c. Student's *t*

5. Central Limit Theorem

6. Statistical literacy and the ability to read and interpret published results
    a. Practical interpretation of case study
    b. Ethical discussions of statistics

7. inferential statistics
    a. Confidence interval
    b. Hypothesis test
    c. One sample and two sample
    d. Chi-squared

8. Regression and correlation
    a. linear regression
    b. correlation coefficient

    c. Coefficient of determination

9. Optional:
    a. Bootstrapping
    b. Monte carlo

Some free app sites:

https://artofstat.com/web-apps

http://www.statprep.org/LittleAppSite/

https://www.classroomstats.com/