

Exam topics in Advanced Applied Statistics

1. Linear models
2. General linear models
3. Generalized linear models
4. Generalized estimating equation
5. Random-effect models, hierarchical modeling
6. Survival analysis, Cox regression
7. Resampling methods, bootstrap
8. Univariate meta-analysis

Literature

R scripts and videos:

<https://www.dropbox.com/scl/fo/678lyj9t93pfg6p8v8bbw/Alger7Tj3oVddQP9OC9nNc?rlkey=0nbw2m1qucaavy952ltvr5r0k&st=gx0b5ptv&dl=0>

Thulin, M. (2024). *Modern Statistics with R*. Second edition. Chapman & Hall/CRC Press. ISBN 9781032512440.

Judith D. Singer and John B. Willett, *Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence*, 2003, Oxford University Press, ISBN: 0195152964 2. K. J. Grimm, N. Ram & R. Estabrook,

Kevin J. Grimm, *Growth Modeling: Structural Equation and Multilevel Modeling Approaches*, 2017, Oxford University Press, ISBN: 9781462526062

Alan Agresti, 2019, *An Introduction to Categorical Data Analysis*, 3rd Ed., Wiley, ISBN: 9781119405269

Harrer, M., Cuijpers, P., Furukawa, T.A., & Ebert, D.D. (2021). *Doing Meta-Analysis with R: A Hands-On Guide*. Boca Raton, FL and London: Chapman & Hall/CRC Press. ISBN 978-0-367-61007-4.

Efron, B., and Tibshirani, R.J. (1994). *An Introduction to the Bootstrap* (1st ed.). Chapman and Hall/CRC. <https://doi.org/10.1201/9780429246593>