ASEN5307 E D A M -F 2018

| Instructor | Dr. R. Steven Nerem (Office: ECNT319, Ph. 492-6721, Email: nerem@colorado.edu) | | |
|---|--|--|--|
| Class Time | TTh 8:00 am – 9:15 pm | | |
| Class Location | ECCR 105 | | |
| Class Web Page http://canvas.colorado.edu | | | |
| Office Hours | 10-11 TTH, or anytime door is open, or by email | | |

Class Assistant

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I. Introduction

- 1. Collecting Data
- 2. Data Calibration and Interpolation
- 3. Data Editing
- 4. Presenting Data

II. Statistics and Error Handling

- 1. Uncertainties in Measurements
- 2. Empirical Distributions
- 3. Theoretical Distributions
- 4. t-test, F-test, !2 test
- 5. Confidence Intervals
- 6. Correlation Coefficient
- 7. Degrees of Freedom
- 8. Estimation Methods
- 9. Curve Fitting
- 10. Covariance and Error Analysis
- 11. Residual Analysis and Data Editing
- 12. Linear Regression Analysis
- 13. Bootstrap and Jackknife Estimates

III. Time-Series Analysis

- 1. Fourier Analysis
- 2. Harmonic Analysis
- 3. Blackman-Tukey Spectral Analysis
- 4. Cross-Spectral Analysis
- 5. Wavelet Analysis
- 6. Analyzing Unevenly Spaced Data
- 7. Lomb-Scargle Powerspectrum

IV. Signal Processing 1.

Syllabus Statements

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the acad