



Earth Sciences 2222b: Data Analysis in Earth Sciences Course Outline – Winter 2025

1. Course Information

ES2222b – Data Analysis in Earth Sciences

List of Prerequisites: 0.5 course from Calculus 1000A/B or Calculus 1500A/B, Mathematics 1225A/B Applied Mathematics 1412A/B, the former Applied Mathematics 1413 (please refer to the UWO Calendar).

List of Anti-requisites: Computer Science 2034A/B, Computer Science 2035A/B.

apply the skills required to work with the scientific computer software Matlab.

Summary of Lecture Topics (

Gubbins, D. *Time Series Analysis and Inverse Theory for Geophysicists*, Cambridge, 2004.

Chave A.D. *Computational Statistics in the Earth Sciences. With Applications in Matlab*, Cambridge, 2017.

Stein S., Wysession M., *An Introduction to Seismology, Earthquakes, and Earth Structure*, Blackwell, 2003.

General information about missed coursework

Students must familiarize themselves with the
posted on the Academic Calendar:

See the Academic Calendar for details (under [Special Examinations](#)), especially for those who miss multiple final exams within one examination period.

6. Additional Statements

Religious Accommodation

When conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request an accommodation for their absence in writing to the course instructor and/or the Academic Advising office of their Faculty of Registration. This notice should be made as early as possible but not later than two weeks prior to the writing or the examination (or one week prior to the writing of the test).

Please visit the Diversity Calendars posted on our university's EDID website for the recognized religious holidays:

<https://www.edi.uwo.ca>.

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Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic-related matters: <https://www.uwo.ca/sci/counselling/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at

http://academicssupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

Learning-skills counsellors at Learning Development and Success (<https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Additional student-run support services are offered by the USC, <https://westernusc.ca/services/>.