

Syllabus for STAT 632: Linear and Logistic Regression (4 units)  
Online Course

**Instructor:** Dr. Joshua Kerr  
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Phone: (510)885-3626 (not recommended)

**Prerequisite:** STAT 630 or department approval

**Lecture:** TuTh 6:00pm – 7:40pm synchronously online using Zoom (link available via Canvas)

**Office Hours:** TuTh 5:00pm – 6:00pm (both in-person and also via Zoom, <https://csueb.zoom.us/j/97411601270>),  
or by appointment

**Website:** Course materials will be posted on Canvas.

**Textbook:** Simon Sheather. *A Modern Approach to Regression with R*. Springer, 2009.  
Free electronic version: <http://library.csueastbay.edu/home>  
Data sets and R code: <http://gattonweb.uky.edu/sheather/book/>

**Additional Reference:** James, G., Witten, D., Hastie, T., and Tibshirani, R. *An Introduction to Statistical Learning with Applications in R*. Springer, 2013.  
Free PDF version: <https://www.statlearning.com/>

**Software:**

R, can be downloaded here <https://www.r-project.org/>  
RStudio, can be downloaded here <https://www.rstudio.com/>  
RStudio Cloud, <https://rstudio.cloud/>

**Communication:** Office hours and emailing questions are highly recommended. If something needs to be discussed verbally and my office hours do not work for you, email me to find an appointment at a mutually conducive time.

**Course Topics:**

- Simple linear regression
- Multiple linear regression, matrix notation

- Model diagnostics and transformations
- Variable selection
- Logistic regression
- Cross-validation: training and test set
- Regularization: ridge regression and LASSO\*
- Decision trees and random forests\*

\*Indicates optional topics

**Grading:** There will be two exams, each worth 20% of your grade. For the project you will need to find a data set of interest, and then conduct a regression analysis using that data set. For the project you are also encouraged to use a modern method (e.g., random forests, LASSO).

- 40% Two Exams (20% each)
- 30% Homework
- 30% Project (20% paper due by 5pm PDT on May 9<sup>th</sup>, 10% presentation in class)

**Grading Rubric:** In general, I grade on a standard partition of grades

A: [100%, 90%]    B: (90%, 80%]    C: (80%, 70%]    D: (70%, 60%]    F: (60%, 0%)  
allowing for “+” and “-” depending on where in the above ranges the grade falls.

**Policy on Late Assignments:** Late homework will generally not be accepted. However, your lowest scoring homework will be dropped. I may agree to extensions on due dates if you are experiencing an emergency or illness.

**Student Learning Outcomes:** Upon successful completion of this course, students will be able to:

- Derive and understand the theory of point and interval estimation and hypothesis testing.
- Formulate and model practical problems for solutions using these statistical methodologies.
- Produce relevant computer output using standard statistical software and interpret results appropriately.

- Communicate statistical concepts and analytical results clearly and appropriately to others.

### **Course Policies and Zoom Etiquette:**

- All lectures will be delivered live during the scheduled class time, and attendance is highly recommended. Recordings of the sessions will be posted on Canvas for students that cannot attend or have connectivity issues.
- Make sure that your audio is muted upon entry into the class.
- You may ask questions by using the chat function or by unmuting yourself. Please try to not disrupt the instructor or other students.

**Technology Requirements:** This course will use the web conferencing software Zoom. To participate you will need a stable internet connection, and a laptop or desktop computer equipped with a webcam, microphone, and speakers. Please refer to the Zoom system requirements [here](#).

**Academic Integrity Statement:** As a member of the academic community, you are expected to act with integrity and avoid plagiarism and other forms of cheating. By enrolling in this class, you agree to uphold the standards of academic integrity described at <https://www.csueastbay.edu/aps/academic-policies/academic-dishonesty.html>

**Accommodations for Students with Disabilities:** For disability and other learning-related needs and accommodations, including if you would need assistance in the event of an emergency evacuation, please communicate with your instructor as soon as possible. Students with disabilities are also encouraged to contact the Accessibility Services office at <https://www.csueastbay.edu/accessibility> to meet with a counselor who can advise you on your options, including your rights under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act.

**Student Services:** To access student services offered at Cal State East Bay, click on the [MyCompass](#) icon to get you to your one-stop online student support hub for information on academic advising, tutoring, financial aid, the library, the health center, technology support, career counseling, campus life, equity programs, and more.

**Important Dates:** [important dates](#)

**Emergency Statement:** California State University, East Bay is committed to being a safe and caring community. Your appropriate response in the event of an emergency can

help save lives. Information on what to do in an emergency situation (earthquake, electrical outage, fire, extreme heat, severe storm, hazardous materials, terrorist attack) may be found at <https://www.csueastbay.edu/riskmanagement/index.html>.

Please be familiar with these procedures. Information on this page is updated as required. Please review the information on a regular basis.

**Protection Against Discrimination, Harrassment and Retaliation:**

Title IX and CSU policy prohibit discrimination, harassment and retaliation, including Sex Discrimination, Sexual Harassment or Sexual Violence. CSUEB encourages anyone experiencing such behavior to report their concerns immediately. CSUEB has both confidential and non-confidential resources and reporting options available to you. Non-confidential resources include faculty and staff, who are required to report all incidents and thus cannot promise confidentiality. Faculty and staff must provide the campus Title IX coordinator and or the DHR Administrator with relevant details such as the names of those involved in an incident. For confidential services, contact the Confidential Advocate at 510-885-3700 or go to the Student Health and Counseling Center. For 24-hour crisis services call the BAWAR hotline at 510-845-7273. For more information about policies and resources or reporting options, please visit the following websites.

<https://www.csueastbay.edu/riskmanagement/complaint.html>

<http://www.csueastbay.edu/titleix>

**Student Conduct:** The University is committed to maintaining a safe and healthy living and learning environment for students, faculty, and staff. Each member of the campus community should choose behaviors that contribute toward this end. More information about community expectations for student conduct can be found at <http://www.csueastbay.edu/studentconduct/student-conduct.html>.

**Campus Resources:** To access student services offered at Cal State East Bay, visit [My-Compass](#), your one-stop-shop for information on advising, tutoring, financial aid, and more.

[Bay Advisor](#) is the online advising portal that undergraduate students use to find their advisor and make advising appointments. Graduate students should contact their major department directly for advising.

SCAA stands for Student Center for Academic Achievement. Visit the [SCAA](#) website for more information on tutoring and other academic support services.

The Office of [Financial Aid](#) provides information and support for students who are seeking financial aid and/or who have received financial aid awards.

[Student Health and Counseling](#) provides individual and small-group appointments as well as other wellness related services.

[University Libraries](#) provides 24/7 support for all your academic research needs.

[Pioneers for H.O.P.E.](#) assists students who are experiencing food insecurity, homelessness, or other crisis situations.

DISC stands for Diversity and Inclusion Student Center. Visit the [DISC](#) website for more information on their mission, services, and events.

This link to [Student Equity and Success Programs](#) connects you with campus programs that focus on equity and success. These programs provide services and activities that support low-income, first-generation, historically underrepresented and underserved students.

This link to [Student Life and Leadership](#) connects you to student government, student organizations, and additional campus resources to support you in your journey at Cal State East Bay.

### **Muwekma Ohlone Tribal Land Acknowledgment**

Mákkín Mak Muwékma Wolwóolum, 'Akkoyt Mak-Warep, Manne Mak Hiswi! We Are Muwekma Ohlone, Welcome To Our Ancestral Homeland!

Muwekma Ohlone Tribal Land Acknowledgment For Cal State University East Bay located in Hayward, CA Jalquin/Yrgin Ancestral Muwekma Ohlone Territory

We would like to recognize that while we gather at Cal State University East Bay located in Hayward, CA, we are gathered on the ethno-historic tribal territory of the intermarried Jalquin (hal-keen) / Yrgin (eer-gen) Chochenyo-Ohlone-speaking tribal group, who were the direct ancestors of some of the lineages enrolled in the Muwekma Ohlone Tribe of the San Francisco Bay Area, and who were missionized into Missions San Francisco, Santa Clara and San Jose.

The present-day Muwekma Ohlone Tribe, with an enrolled Bureau of Indian Affairs documented membership of over 600 members, is comprised of all of the known surviving Indian lineages aboriginal to the San Francisco Bay region who trace their ancestry through the Missions San Jose, Santa Clara, and San Francisco, during the advent of the Hispano-European empire into Alta California beginning in AD 1769. They are the successors and living members of the sovereign, historic, previously Federally Recognized Verona Band of Alameda County now formally known as the Muwekma Ohlone Tribe of San Francisco Bay Area. Muwekma means La Gente – The People in their traditional Chochenyo-Ohlone

language.

The land on which CSUEB in Hayward has been established, was and continues to be of great importance and significance for the Muwekma Ohlone Tribal people. This region extends to surrounding areas that held several Túupentak (too-pen-tahks) (aka Temescals), traditional semi-subterranean spiritual roundhouses. Túupentak were places of celebrations, healing, rituals, dances, intertribal feasts, and religious ceremonies. Nearby ancestral heritage “shellmound sites,” such as those located at Máyyan Šáatošikma Coyote Hills, Berkeley, and Emeryville, served as the Muwekma Ohlone Tribe’s territorial monuments and traditional cemetery sites for high lineage families, craft specialists, and fallen warriors.

The region surrounding the City of Hayward, and Cal State University East Bay, is where many of their ancestral heritage cemetery and village sites are located. These localities are viewed as special and sacred places, and we respectfully acknowledge that they had been previously settled and owned by the ancestral Muwekma Tribal groups for many thousands of years. The location of the nearby Fairmont County Hospital was the place of one of the Tribe’s major rancherias called “The Springs,” during the middle-late 1800s where their families planted various crops and raised cattle. Today, the Muwekma Ohlone work as stewards for many of their 10,000-year-old ancestral heritage village and cemetery sites.

As mentioned before, the City of Hayward is established within their ancestral Jalquin/Yrgin Ohlone Tribal ethnohistoric territory, which based upon the unratified federal treaties of 1851-1852, includes the unceded ancestral lands of the Muwekma Ohlone Tribe of the San Francisco Bay Area. Missions San Francisco and San Jose records document that many of the enrolled Muwekma lineages are directly descended from the Jalquin/Yrgin Chochenyo Ohlone-speaking tribal groups, as well as from neighboring Ohlone tribes.

It is important that we not only recognize the history of the land of the Jalquin/Yrgin on which we gather to learn and participate, but also recognize that the First People of this region – the Muwekma Ohlone People, are alive and thriving members of the Hayward and broader Bay Area communities today. Even though their tribe was denied a land base when it was first federally recognized, it is because of the tenacity and strength of their ancestors and elders, that their People have been able to maintain their traditions, and keep their culture and language alive. Furthermore, the Muwekma Ohlone families have never left their indigenous ancestral lands. Today they repair the sustained damages of over 251 years of colonization. They are focused on keeping their traditional culture strong, while they work for a bright and favorable future for their children, as they follow in the footsteps of their ancestors.

We respectfully request, that the good citizens of the City of Hayward and surrounding Towns strive to be faithful stewards on behalf of the Muwekma Ohlone Tribe by maintain-

ing the bay, freshwater ways, native plants, animal habitats, and the air we all breathe. Furthermore, we request that the City of Hayward and surrounding Towns honor the military service of the Muwekma men and women who have honorably served overseas during World War I, World War II, Korea, Vietnam, Desert Storm, Iraq and who are still serving in the United States Armed Forces today; and honor the tribal veterans and service members from California, North and South America. In closing, it is of great importance to acknowledge the significance of this Holše Warep (hol-sheh wah-rehp) Beautiful Land to the indigenous Muwekma Ohlone People of this region. We ask everyone who attends or visits Cal State University East Bay in Hayward, to be respectful of the aboriginal lands of the Muwekma Ohlone People, and consistent with their principles of community and diversity strive to be good stewards on behalf of the Muwekma Ohlone Tribe, on whose land you are their guests. Aho!

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