

Course ID	Course Description	Course Objectives
<p>ESCD 7730  <b>Biostatistics:  Regression  Analysis</b></p>	<p>This is an intermediate course in biostatistics. It covers one-way and two-way analysis of variance, repeated measures designs, simple and multiple regressions and correlation analyses, analysis of covariance, simple and multiple regression. It will introduce the student to biostatistical methods and the role they play in decision making in public health. The student will be enabled to select and carry out appropriate descriptive and inferential statistical techniques. The student will be enabled to interpret the results of a statistical analysis.</p>	<ol style="list-style-type: none"> <li>1. Compute regression coefficients for simple linear regression and test hypotheses concerning these coefficients. Interpret the coefficients.</li> <li>2. Construct prediction and confidence intervals using the regression model.</li> <li>3. Calculate and test hypotheses about the correlation coefficient.</li> <li>4. Interpret regression coefficients in multiple linear regression.</li> <li>5. Use Analysis of Variance to test for significant fit of the multiple regression equation.</li> <li>6. Perform partial F-tests to compare model components.</li> <li>7. Define, calculate, and interpret multiple and partial correlation coefficients.</li> <li>8. Define interaction.</li> <li>9. Define dummy variables.</li> <li>10. Compare regression lines for two or more populations.</li> <li>11. Compare study factors adjusted for confounding variables.</li> <li>12. Select the most parsimonious subset of predictor variables from a larger set of predictor variables.</li> <li>13. Identify and check the appropriate assumptions for use of regression techniques.</li> <li>14. Introduce polynomial terms as needed.</li> <li>15. Fit a logistic regression model using both continuous and categorical predictor variables.</li> <li>16. Calculate estimated risks, relative risks, and odds ratios from a fitted logistic regression model.</li> <li>17. Compute confidence intervals for predicted odds ratios.</li> <li>18. Calculate adjusted odds ratios and confidence intervals using the logistic prediction equation.</li> </ol>