**Statistical methods examination**

**Group 5**

Instructions

This exam test uses data from a 2018 research on university students’ attitudes towards emigration from Poland. It investigates antecedents for willingness to emigrate such as participation in Erasmus exchange, language skills, evaluation of the current political and economic situation in Poland, religiosity, attitude towards tradition, and usual demographical features.

This is an open-book examination, so you can use notes and Internet sources, but you cannot communicate with other people in any way and you mustn’t use your mobile phone. Those who breach these rules will not be allowed to continue the exam and get a score of 0.

Please solve the following problems in 60 minutes using SPSS. Save your answers as a Word file and submit to projekty.studentow@gmail.com.

To get the maximum score, you need to choose the right set of statistical tests, run the analyses, check the assumptions and correctly interpret the answers.

**Problem 1.**

Do respondents participating in Erasmus exchange show better language skills?

(20 points)

**Problem 2.**

Is it right to say that people participating in Erasmus exchange are more willing to emigrate from Poland?

(30 points)

**Problem 3.**

Build a binary regression model with respondents’ willingness to emigrate as the dependent variable, and attitudes towards political and economic situation in Poland, religiosity, family and tradition, gender, participation in Erasmus exchange, language skills, work status and having family members abroad as predictors. Transform willingness to emigrate into a binary variable. Use factor analysis to extract factor scores representing different attitudes and enter them all as predictors in the regression model. Investigate and interpret two-way interactions between extracted factors, if any significant. Use the ROC curve to find the probability cut-off point allowing to correctly identify 80% of respondents willing to emigrate.

(50 points)