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| COURSE: Statistics II | | |
| DEGREE: Dual Bachelor in Law and Economics | YEAR: 2 | TERM: 1 |

WEEKLY SCHEDULE

| WEEK | SESSION | DESCRIPTION | GROUPS | | Special room for session (computer classroom, audio-visual classroom...) | WEEKLY SCHEDULE FOR STUDENT | | |
|------|---------|---|----------|---------|--|--|-------------|-----------------------------------|
| | | | LECTURES | SEMINAR | | DESCRIPTION | CLASS HOURS | HOME-WORK HOURS Maximum 7 H |
| 1 | 1 | Chapter 1 theory I: Review of statistical concepts. Inference in one population. Point estimation and confidence interval estimation. | X | | | Study of Chapter 1 part I contents. | 1,5 | 6 |
| 1 | 2 | Chapter 1 practice I: Solving exercises - inference in one population. Point estimation and confidence interval estimation. | | X | | Solving exercises for Chapter 1part I. | 1,5 | |
| 2 | 3 | Chapter 1 theory II: Confidence intervals for the mean: normal population (known variance), large samples. Confidence intervals for the proportion. | X | | | Study of Chapter 1 part II contents. | 1,5 | 5 |
| 2 | 4 | Chapter 1 practice II: Solving exercises - confidence intervals for the mean: normal population (known variance), large samples. Confidence intervals for the proportion. | | X | | Solving exercises for Chapter 1part II. | 1,5 | |
| 3 | 5 | Chapter 1 theory III: Confidence intervals in a normal population: mean (unknown variance) and variance. | X | | | Study of Chapter 1 part III contents. | 1,5 | 6 |
| 3 | 6 | Chapter 1 practice III: Solving exercises - confidence intervals in a normal population: mean (unknown variance) and variance. | | X | | Solving exercises for Chapter 1part III. | 1,5 | |
| 4 | 7 | Chapter 2 theory I: Basic concepts in hypothesis testing. Null and alternative hypotheses. Test statistic, significance level, Type I and Type II errors. Procedure. | X | | | Study of Chapter 2 part I contents. | 1,5 | 6 |
| 4 | 8 | Chapter 2 practice I: Solving exercises with tests of hypotheses. | | X | | Solving exercises for Chapter 2part I. | 1,5 | |
| 5 | 9 | Chapter 2 theory II: p-value. Example of tests for the mean, proportion. Power of a test. | X | | | Study of Chapter 2 part II contents. | 1,5 | 6 |
| 5 | 10 | Chapter 2 practice II: Solving exercises with tests of hypotheses. | | X | | Solving exercises for Chapter 2part II. | 1,5 | |

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| 6 | 11 | Chapter 2 theory III: More examples of tests. Tests and confidence intervals. | X | | | Study of Chapter 2 part III contents. | 1,5 | 5 |
| 6 | 12 | Chapter 2 practice III: Solving exercises with tests of hypotheses; power of a test. | | X | | Solving exercises for Chapter 2part III. | 1,5 | |
| 7 | 13 | Chapter 3 theory I: Comparing two populations. Confidence intervals and hypothesis testing for the differences in means and proportions in independent samples. | X | | | Study of Chapter 3 part I contents. Reviewing Chapters 1 and 2. Preparing for the midterm. | 1,5 | 7 |
| 7 | 14 | Chapter 3 practice I:Solving exercises - comparing two populations. Midterm 1 (Chapters 1 and 2) | | X | | Solving exercises for Chapter 3partI. Reviewing Chapters 1 and 2. Preparing for the midterm. | 1,5 | |
| 8 | 15 | Chapter 3 theory II: Comparing two populations. Confidence intervals and hypothesis testing for the ratio of variances in independent samples. Differences in means in paired samples. | X | | | Study of Chapter 3 part II contents. | 1,5 | 6 |
| 8 | 16 | Computer Lab 1 (Chapters 1, 2 and 3). Using software to calculate confidence intervals and perform hypothesis testing in one and two populations. | | X | Computer lab | Solving exercises for Chapter 3parts I and II. | 1,5 | |
| 9 | 17 | Chapter 4 theory I: Covariance, correlation and scatterplot. Simple linear regression model: formulation. | X | | | Study of Chapter 4 part I contents. | 1,5 | 6 |
| 9 | 18 | Chapter 4 practice I: Solving exercises - covariance, correlation and scatterplot. Fitting a simple linear regression model. | | X | | Solving exercises for Chapter 4part I. | 1,5 | |
| 10 | 19 | Chapter 4 theory II: Simple linear regression model - formulation and assumptions, parameter estimation, properties of the estimators. | X | | | Study of Chapter 4 part II contents. | 1,5 | 6 |
| 10 | 20 | Chapter 4 practice II: Fitting a simple linear regression model, inference for the parameters. | | X | | Solving exercises for Chapter 4part II. | 1,5 | |
| 11 | 21 | Chapter 4 theory III: Simple linear regression - inference. | X | | | Study of Chapter 4 part III contents. | 1,5 | 5 |
| 11 | 22 | Chapter 4 practice III: Solving exercises for the linear regression model. Mean response and forecast estimation. | | X | | Solving exercises for Chapter 4part III. | 1,5 | |
| 12 | 23 | Chapter 4 theory IV: Simple linear regression - inference. Confidence and prediction intervals. | X | | | Study of Chapter 4 part IV contents. Reviewing Chapters 3 and 4. Preparing for the midterm. | 1,5 | 7 |
| 12 | 24 | Chapter 4 theory IV: Solving exercises - simple linear regression, inference. Confidence and prediction intervals. Midterm 2 (Chapter 3 and part of Chapter 4) | | X | | Solving exercises for Chapter 4part IV. Reviewing Chapters 3 and 4. Preparing for the midterm. | 1,5 | |

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| 13 | 25 | Chapter 5 theory I: Model diagnostics in a simple linear regression model. ANOVA. | X | | | Study of Chapter 5 part I contents. | 1,5 | 6 |
| 13 | 26 | Computer Lab 2 (Chapter 4): Fitting a simple linear regression model. Residual analysis. Fitting a multiple linear regression model. | | X | Computer lab | Solving exercises for Chapter 5part I. | 1,5 | |
| 14 | 27 | Chapter 5 theory II: Linear regression model in matrix notation. Multiple linear-regression. | X | | | Study of Chapter 5 part II contents. | 1,5 | 7 |
| 14 | 28 | Chapter 5 practice I: Solving exercises - linear regression model in matrix notation. ANOVA. Multiple linear regression. | | X | | Solving exercises for Chapter 5part II. | 1,5 | |
| SUBTOTAL | | | | | | | 42 + 84 = 126 | |
| 15 | | Tutorials, project handing -in, etc | | | | Group tutorial class Individual tutorials and/or make-up classes Preparation for the final exam | 1,5 | 10,5 |
| 16-18 | | Assessment | | | | Preparation for the final exam Final exam | | 12 |
| TOTAL | | | | | | | 150 | |