# SYLLABUS
## Academic year 2017-2018

### 1. Information regarding the programme

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| 1.1. Higher education institution | BABES-BOLYAI UNIVERSITY |
| 1.2. Faculty | BUSINESS |
| 1.3. Department | BUSINESS ADMINISTRATION |
| 1.4. Field of study | BUSINESS ADMINISTRATION |
| 1.5. Study cycle | MASTER |
| 1.6. Study programme / Qualification | AAOTI |

### 2. Information regarding the course

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|---|---|---|---|---|---|---|
| 2.1. Name of the course | FORECASTING IN TOURISM | | | | | |
| 2.2. Code | IME0035 | | | | | |
| 2.3. Course coordinator | | Professor Cristian Chifu, PhD | | | | |
| 2.4. Seminar coordinator | | Professor Cristian Chifu, PhD | | | | |
| 2.5. Year of study | 1 | 2.6. Semester | II | 2.7. Type of evaluation | EC | 2.8. Type of course | compulsory |

### 3. Total estimated time (hours/semester of didactic activities)

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|---|---|---|---|---|---|
| 3.1. Hours per week | 4 | Of which: 3.2. lecture | 2 | 3.3 seminar/laboratory | 2 |
| 3.4. Total hours in the curriculum | 56 | Of which: 3.5. lecture | 28 | 3.6. seminar/laboratory | 28 |

| Time allotment: | ore |
|---|---|
| Learning using manual, course support, bibliography, course notes | 28 |
| Additional documentation (in libraries, on electronic platforms, field documentation) | 28 |
| Preparation for seminars/labs, homework, papers, portfolios and essays | 28 |
| Tutorship | 2 |
| Evaluations | 2 |
| Other activities: | 6 |
| 3.7. Total individual study hours | 94 |
| 3.8. Total hours per semester | 150 |
| 3.9. Number of ECTS credits | 6 |

### 4. Prerequisites (if necessary)

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| 4.1. curriculum | |
| 4.2. competencies | |

## 5. Conditions (if necessary)

| 5.1. for the course | classroom with computer and projector; |
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| 5.2. for the seminar /lab activities | classroom with computer and projector; |

## 6. Specific competencies acquired

| Professional competencies | At the end of this course students must be able to: <ul><li>use the econometrics principles and understand its principles as a quantitative analysis tool;</li><li>communicate in econometric "language"</li><li>to forecast values for hotel activity indicators such as the demand;</li></ul> |
|---|---|
| Transversal competencies | <ul><li>applying rigorous and efficient work rules, evidence of responsible attitudes and teaching science to optimally creative potential of their own specific situations with the principles and rules of professional ethics;</li><li>an efficient and effective organized team activities; effective use of information sources and communication resources and training assistance, both in Romanian and in a foreign language;</li></ul> |

## 7. Objectives of the course (outcome of the acquired competencies)

| 7.1. General objective of the course | <ul><li>Learning the econometrics principles and understanding its principles as a tool for quantitative analysis</li></ul> |
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| 7.2. Specific objective of the course | <ul><li>the ability to use the statistical and econometrical language and acquire knowledge and skills in an area with a very large application at macro and micro level: econometrics;</li><li>develop skills of data analysis that describes an economic phenomenon;</li><li>development of communication skills in econometric language.</li></ul> |

## 8. Content

| 8.1. Course | Teaching method | Remarks |
|---|---|---|
| Introduction in econometrics and time series analysis. A review of some statistical concepts | interactive discussion | 1 course |
| The linear regression model: two-variable model <ul><li>Population regression function</li><li>Sample regression function</li><li>Estimation of parameters: The method of ordinary least squares</li><li>Hypothesis testing</li></ul> | interactive discussion | 1 course |

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|---|---|---|
| <ul><li>Coefficient of correlation. Coefficient of determination</li><li>Forecasting</li><li>Considerations on the ordinary least squares method</li></ul> | | |
| Multiple regression <ul><li>The three-variable linear regression model</li><li>Estimation of parameters</li><li>Hypothesis testing in multiple regression</li><li>Coefficient of multiple correlation. Coefficient of determination</li><li>Removing explanatory variables from the mdel</li><li>Adding explanatory variables to the model</li><li>Forecasting</li></ul> | interactive discussion | 1 course |
| Functional forms of regression models <ul><li>Log-linear model (multiplicative)</li><li>Semilog model (exponential)</li><li>Lin-log model (logarithmic X)</li><li>Reciprocal model</li><li>Multiple log-linear model</li><li>Polynomial model</li></ul> | interactive discussion | 2 courses |
| Component Factors of Time-Series Models. Smoothing an Annual Time Series <ul><li>Moving average</li><li>Exponential Smoothing</li></ul> | interactive discussion | 1 course |
| Least-Squares Trend Fitting and Forecasting <ul><li>The Linear Trend Model</li><li>The Quadric Trend Model</li><li>The exponential Trend Model</li><li>Model Selection Using First, Second and Percentage Difference</li></ul> | interactive discussion | 1 course |
| Choosing an Appropriate Forecasting Model <ul><li>Performing a Residual Analysis</li><li>The Principle of Parsimony</li><li>A comparison of Four Forecasting Methods</li></ul> | interactive discussion | 1 course |
| Time-Series Forecasting of Seasonal Data <ul><li>Least Square Forecasting with Monthly or Quarterly Data</li></ul> | interactive discussion | 1 course |

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| Autocorrelation <br> • The nature of autocorelation <br> • Consequences of autocorelation <br> • Detection of autocorelation <br> • Remedial measures | interactive discussion | 1 course |
|---|---|---|
| Dynamic economic models <br> • Autoregressive models <br> • Distributed lag models | interactive discussion | 1 course |
| Trend in Time Series. Spurious Regression | interactive discussion | 1 course |
| Revision | interactive discussion | 1 course |
| Project Presentation | interactive discussion | 1course |
| Bibliography | 1. Bereson, M.L., Levine, D.M., Krehbiel, T.C., Basic Business Statistics, Pearson,Prentice Hall, NJ, 2009. <br> 2. Gujarati, D., Porter, D.C., Basic Econometrics. New York: McGraw-Hill, 2009 <br> 3. Ruud, P.A., Classical Econometric Theory, Oxford University Press, 2000. <br> 4. Wooldridge, J.M., Introductory Econometrics, South-Western College Publishing, 2000. <br> 5. Reader_Forecasting_2017 (by e-mail) | |

| 8.2. Seminar | Teaching method | Remarks |
|---|---|---|
| Introduction in econometrics and time series analysis. A review of some statistical concepts | interactive discussion | 1 seminar |
| The linear regression model: two-variable model <br> • Population regression function <br> • Sample regression function <br> • Estimation of parameters: The method of ordinary least squares <br> • Hypothesis testing <br> • Coefficient of correlation. Coefficient of determination <br> • Forecasting <br> • Considerations on the ordinary least squares method | interactive discussion | 1 seminar |
| Multiple regression <br> • The three-variable linear regression model <br> • Estimation of parameters <br> • Hypothesis testing in multiple | interactive discussion | 1 seminar |

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|---|---|---|
| regression<br>• Coefficient of multiple correlation. Coefficient of determination<br>• Removing explanatory variables from the mdel<br>• Adding explanatory variables to the model<br>• Forecasting | | |
| Functional forms of regression models<br>• Log-linear model (multiplicative)<br>• Semilog model (exponential)<br>• Lin-log model (logarithmic X)<br>• Reciprocal model<br>• Multiple log-linear model<br>• Polynomial model | interactive discussion | 2 seminars |
| Component Factors of Time-Series Models. Smoothing an Annual Time Series<br>• Moving average<br>• Exponential Smoothing | interactive discussion | 1 seminar |
| Least-Squares Trend Fitting and Forecasting<br>• The Linear Trend Model<br>• The Quadric Trend Model<br>• The exponential Trend Model<br>• Model Selection Using First, Second and Percentage Difference | interactive discussion | 1 seminar |
| Choosing an Appropriate Forecasting Model<br>• Performing a Residual Analysis<br>• The Principle of Parsimony<br>• A comparison of Four Forecasting Methods | interactive discussion | 1 seminar |
| Time-Series Forecasting of Seasonal Data<br>• Least Square Forecasting with Monthly or Quarterly Data | interactive discussion | 1 seminar |
| Autocorrelation<br>• The nature of autocorelation<br>• Consequences of autocorelation<br>• Detection of autocorelation<br>• Remedial measures | interactive discussion | 1 seminar |
| Dynamic economic models<br>• Autoregressive models<br>• Distributed lag models | interactive discussion | 1 seminar |
| Trend in Time Series. Spurious Regression | interactive discussion | 1 seminar |

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|---|---|---|---|
| Revision | interactive discussion | 1 seminar | |
| Project Presentation | interactive discussion | 1 seminar | |
| Bibliography | 1. Bereson, M.L., Levine, D.M., Krehbiel, T.C., Basic Business Statistics, Pearson,Prentice Hall, NJ, 2009. <br> 2. Gujarati, D.,  Porter, D.C., Basic Econometrics. New York: McGraw-Hill, 2009 <br> 3. Ruud, P.A., Classical Econometric Theory, Oxford University Press, 2000. <br> 4. Wooldridge, J.M., Introductory Econometrics, South-Western College Publishing, 2000. <br> 5. Reader_Forecasting_2017 (by e-mail) | | |

## 9. Corroborating the content of the course with the expectations of the epistemic community, professional associations and representative employers within the field of the program

- The course content is in correspondence with what is done in other universities in the country and abroad.
- To adapt to the market demands of the contents, meetings were held with representatives of the business community.

## 10. Evaluation

| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation method | 10.3 Pondere din nota finală |
|---|---|---|---|
| 10.4. Course | • correct logical and coherent application of the concepts learned <br> • logical and accurate explanation and interpretation of the results; | final exam | 50% |
| 10.5. Seminar/lab activities | • the ability to apply concepts learned in practice <br> • correct logical and coherent application of the concepts learned <br> • economic explanation of the results; | applicative activities (projects, essays, reports, etc.) <br><br> the active participation in seminars and solving tasks during the semester | 30% <br><br><br> 20% |

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| | • interest in the individual preparation throughout the whole semester | | |
|---|---|---|---|
| | | | |

| 10.6. Minimum performance standards |
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| ➢ Knowledge of the fundamental concepts and their applicate examples; <br> ➢ The economic interpretation of the results. |

| **Date** | **Signature of course coordinator** | **Signature of seminar coordinator** |
|---|---|---|
| **29.03.2017** | **Ioan Cristian Chifu, PhD** | **Ioan Cristian Chifu, PhD** |

| **Date of approval** | **Signature of the Head of department** |
|---|---|
| **22.05.2017** | **Cornelia Pop, PhD** |