

## CORE MODULE DESCRIPTORS – 3<sup>rd</sup> Semester

### 1. Statistics for Business

<b>1. Module Title</b>	<b>Statistics for Business</b>	<b>2. Module Code</b>	
<b>3. Academic Year, Semester, Module Status</b>	2021-2022 Fall semester, Full-time		
<b>4. Aims and Learning Outcomes</b>	This introduces students to statistical thinking as it applies to business and business challenges. Students will learn how to use statistical thinking to get a handle on the uncertainty and ambiguity in phenomena they want to understand. The course covers sampling distribution, confidence intervals, hypothesis testing, simple regression, and time series. The approach uses many hands-on, in-class experiments to convey the idea that underlies statistics.		
<b>Knowledge</b>	<b>Effect Code</b>		<b>Assessment</b>
	<b>Subject</b>	<b>Field</b>	
1. Analyse and distinguish between different kinds of statistical distributions;		K_W02	In class exam 1, in class exam 2, final exam.
2. Calculate probabilities of events;		K_W04	In class exam 1, in class exam 2, final exam.
<b>Skills</b>	<b>Effect Code</b>		<b>Assessment</b>
	<b>Subject</b>	<b>Field</b>	
1. Apply estimation and testing procedures;		K_U01	In class exam 1, in class exam 2, final exam
2. Conduct simple and multiple regression analyses;		K_U05	In class exam 1, in class exam 2, final exam.
3. Manage the statistical problem solving process		K_U04	In class exam 1, in class exam 2, final exam.
4. Can use the acquired knowledge to ensure sustainable operation of an enterprise		K_U08	In class exam 1, in class exam 2, final exam.
<b>Social Competencies</b>	<b>Effect Code</b>		<b>Assessment</b>
	<b>Subject</b>	<b>Field</b>	
1. Recognise the role of statistics in personal, social and global issues relating to everyday life.		K_K01	In class exam 1, in class exam 2, final exam.
<b>5. Module Coordinator</b>	<b>Name</b>		<b>E-mail</b>
	prof. W. Florczak		<a href="mailto:florzakwaldemar@gmail.com">florzakwaldemar@gmail.com</a>
<b>6. Lecturer</b>	<b>Name</b>		<b>E-mail</b>
	prof. W. Florczak		<a href="mailto:florzakwaldemar@gmail.com">florzakwaldemar@gmail.com</a>
<b>7. Module Level</b>	<b>Masters</b>		<b>Bachelors</b>
			x
<b>8. Year and</b>	<b>Year</b>		<b>Programme</b>

<b>Programme</b>	2	BA in Management
<b>9. Module Content</b>		
<b>#</b>	<b>Topics Discussed</b>	<b>Hours</b>
<b>Lecture</b>		
	<p>1. (Statistics for Business and Economics, Chapter 1 – Subsections 1.1 to 1.6)  Introduction to Course  Information Systems and Knowledge Management  Introduction to Statistics  Measurement and Scaling Concepts  Types of Statistical Applications in Business</p> <p>2. (Statistics for Business and Economics, Chapter 2)  Qualitative vs. Quantitative Data  Frequency Distributions and Graphic Presentation  Descriptive Statistics  Types of Variables</p> <p>3. (Statistics for Business and Economics, Chapter 2)  Measures of central tendency, dispersion and position</p> <p>4. (Statistics for Business and Economics, Chapter 3 and 4)  Introduction to probability, Central Limit Theorem, Confidence Intervals</p> <p>5. (Statistics for Business and Economics, Chapter 5 and 6)  Sampling, Sampling Distributions</p> <p>6. (Statistics for Business and Economics, Chapter 7)  Verification of statistical hypotheses  The verification procedure and verification decision-making rules  Parametric and non-parametric tests of significance</p> <p>7. (Statistics for Business and Economics, Chapter 10)  Categorical Data and the Multinomial Experiment  Testing Categorical Probabilities</p> <p>8. (Additional Reading Material will be supplied by the Instructor)  The nature of the correlation coefficient  Correlation of the dummy variables  The coefficient of association attributes</p> <p>9. (Statistics for Business and Economics, Chapter 11 – Subsections 11.1 to 11.5)  The nature of the regression model  Simple Linear Regression  Fitting the Model</p> <p>10. (Additional Reading Material will be supplied by the Instructor)  Linear function of the probability  Models with transformed limited variables</p> <p>11. (Additional Reading Material will be supplied by the Instructor)  Analysis of the dynamics  Increases in absolute and relative terms  Common Pitfalls in Statistical Thinking  Common Mistakes in Using Statistics</p> <p>12. Exam Review</p>	<p><i>2.5 h each topic</i></p> <p><i>30 h together</i></p>
<b>Workshop</b>		

<p>1. (Statistics for Business and Economics, Chapter 1 – Subsections 1.5 to 1.7) Types of Data Data Collection</p> <p>2. (Statistics for Business and Economics, Chapter 2) Descriptive Statistics continued Measures of Central Tendency</p> <p>3. (Statistics for Business and Economics, Chapter 2) Measures of central tendency and dispersion and position</p> <p>4. (Statistics for Business and Economics, Chapter 3 and 4) Probability, probability distributions</p> <p>5. (Statistics for Business and Economics, Chapter 5 and 6) Sampling, Sampling Distributions</p> <p>6. (Statistics for Business and Economics, Chapter 7) Hypothesis Testing Tests for the average, variance Chi-squared test</p> <p>7. (Statistics for Business and Economics, Chapter 10) Testing Categorical Probabilities</p> <p>8. (Additional Reading Material will be supplied by the Instructor) Correlation coefficient and testing its significance</p> <p>9. (Statistics for Business and Economics, Chapter 11 – Subsections 11.6 to 11.7) Simple Linear Regression Regression in Use with Examples</p> <p>10. (Additional Reading Material will be supplied by the Instructor) Models with transformed limited variables</p> <p>11. (Additional Reading Material will be supplied by the Instructor) Statistical indexes Growth indicators Changing the base of indexes</p> <p>12. Exam review</p> <p><b>This workshop will concentrate on practical business decision making and problem solving especially under conditions of uncertainty through the use of statistical data sets, business simulations, interactive classroom student involvement, and student presentations.</b></p>	<p>2.5 h each topic</p> <hr/> <p>30 h together</p>
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**10. Individual Student's Work**

#	Description	Hours
	Preparing for in class exam 1	20
	Preparing for in class exam 2	20
	Preparing for the final exam	30
	Covering readings	30

**11. Assessment Methods**

In class exam 1 (30%)  
In class exam 2 (30%)  
Final Exam (40%)

<b>12. Assessment Criteria</b>	<p>In order to pass the course student should score at least grade 3.0 (50%) as the total grade for semester.</p> <p>Scoring translates into grades as follows:</p> <p>50 - 59 points - grade 3  60 - 69 points - grade 3.5  70 - 79 points - grade 4  80 - 89 points - grade 4.5  90 - 98 points - grade 5  98-100 points - grade 5.5</p> <p>In the case of exceptional student achievements, the lecturer can award a 5.5 grade with fewer points.</p>		
<b>13. ECTS Credits</b>	7		
		<b>Hours</b>	<b>ECTS</b>
	<b>Contact Hours</b>		
	Lecture	30	1,2
	Workshop	30	1,2
	Consultation	15	0,6
	<b>Other Kind of Student's Activity</b>		
	Individual Student's Work	100	4,0
	<b>SUMM</b>	175	7
<b>14. Required Readings</b>	James T. McClave, P. George Benson, Terry Sinich Statistics for Business and Economics: 13th Edition Pearson (2017)		
<b>15. Recommended Readings</b>	n/a		
<b>16. Place where module is run</b>	LU campus		
<b>17. Other</b>			