

Table S2.6.4. Form for the preparation of the course information sheets				
Name of the subject: <i>Modeling the Supply Chain</i>				
Code of the subject	Status of the subject	Semester	Number of ECTS credits	Class load
	Elective	I	10	3L+1E+0L
<b>Study programme for which it is organized:</b> Doctoral studies in sustainable development				
<b>Dependency by other subjects:</b> No prerequisites for course enrolment and attending				
<b>Objectives of studying this subject:</b> The main goals of the subject are primarily aimed at acquiring academic knowledge in relation to modeling in Supply Chain Management (SCM) and Green Supply Chain Management (GSCM) with special emphasis on maritime transport technologies, port systems, maritime logistics and shipping, as well as their role and importance in modeling processes in SCM and GSCM.				
<b>Contents of the subject (teaching units, forms of students' individual work, forms of testing) presented per working weeks in the academic calendar:</b>				
Preparatory week	Preparation and enrolment of the Semester			
I week	Supply Chain Management (SCM), Integrated Planning, Models			
II week	Information Technology			
III week	Fundamentals of optimization models: Linear programming I			
IV week	Fundamentals of optimization models: Linear programming II			
V week	Fundamentals of optimization models: Mixed-Integer Programming			
VI week	Overview of Descriptive Models			
VII week	<b>The First Compulsory Assignment</b>			
VIII week	Supply Chain Decision Databases			
IX week	Operational Supply Chain Planning			
X week	Green Supply Chain Management (GSCM), Environmental Collaboration and Sustainability Performance			
XI week	Green transportation and reverse logistics			
XII week	The Role of Seaports in Green Supply Chain Management: Initiatives, Attitudes, and Perspectives in the South Adriatic Ports			
XIII week	Sustainable Sea Port Systems within Green Transport Corridors			
XIV week	Role of Logistics and Transportation in Green Supply Chain Management			
XV week	<b>The Second Compulsory Assignment</b>			
<b>Methods of education:</b> Lectures, practical exercises, learning, performing individual practical exercises, debates, consultations.				
<b>Students' load</b>				
<u>Weekly</u>		<u>In Semester</u>		
10 credits x 40/30 = 13hours + 20 minutes		Teaching and the Final Exam: 13h + 20 min. x 16 = 199h + 30 minutes		
<b>Structure:</b>		<b>Necessary preparation before Term starting (admin., enrolment, verification):</b> 2 x (13h + 20 min) = 26h + 40min		
3 hours of lectures		<b>Total hours for the course:</b> 10 x 30 = 300h		
1 hours of exercise		<b>Additional hours for preparing correction of final exam, including the taking of the exam:</b> 0 do 73h and 50 minutes		
0 hours of practical work		<b>Structure of the students' duties:</b> 199h + 20 min.(lectures) + 26h + 40min + 73h and 50 minutes(additional work)		
9 hours 20 minutes of individual work, including consultations				
<b>Students' obligations during the teaching:</b> Students are required to attend classes (lectures and exercises) and to take Preliminary Exams and the Final Exam.				
<b>Literature:</b>				
1. Shapiro, J.F., (2007), <i>Modeling the Supply Chain</i> , 2 <sup>nd</sup> edition, Duxbury Applied Series.				
2. Dragović, B., (2007), <i>Logistics Decision Making</i> , Korea Maritime University, Logistics System Engineering.				

**Learning outcomes (complied with the outcomes for the study programme):**

Description and application of the modeling theories in SCM and GSCM;

1. Application of the the optimization methodology for planning in SCM and GSCM;
2. Application of the methodology for site selection of distribution centers in SCM and GSCM;
3. Using the experience of modeling logistics centers in SCM and GSCM;
4. Modelling of the network configuration and supply chain through adequate models;
5. Optimizarion of the transport chain in SCM and GSCM;
6. Solving of the examples from practice in relation to strategic and tactical planning in SCM and GSCM;
7. Using of the simulation models in SCM and GSCM ;
8. Modelling of the activities in SCM and GSCM;
9. Solving of the practical examples in Maritime Logistics and Ports as parts SCM and GSCM from the immediate environment;
10. Solving of the practical examples in Maritime Shipping as parts SCM and GSCM from the immediate environment;
11. Solving of the practical examples in SCM and GSCM from the immediate environment.

**Forms of tests and evaluation:**

1. The First Compulsory Assignment, 0 to 15 points.
2. The Second Compulsory Assignment, 0 to 15 points.
3. Seminar paper, from 0 to 20 points.
4. Final exam, 0 to 50 points.

Passing mark is obtained if the student collects at least 50 points.

**Name and surname of teacher and associate:**

Prof. Branislav Dragovic, PhD

**Particularities needed to be emphasized for the subject:**

*Note (if needed):*