Study Programme: PhD in Geosciences (Geography)			
Level: PhD			
Course title: Renewable Energy Resources and their Use			
Lecturer(s): dr Milivoj Gavrilov			
Status: elective			
ECTS: 11			
Requirements: None			
Learning objectives To acquire knowledge of all important renewable energy resources, their availability, accessibility, compatibility and the economics of use.			
Learning outcomes The acquired knowledge will enable students to analyse the use of renewable energy resources and their application relative to non-renewable fuels in terms of increasin energy supply, and promotion of sustainable development concept, for the benefit of human community in the present time and especially the future.			
Syllabus *Theoretical part* Historical background. Non-renewable and fossil fuels, advantages and disadvantages. Renewable energy resources – definitions and types of renewable resources. Insight and introduction to the main renewable resources: solar, hydro, wind, geothermal, biomass, bio-fuels, wave and tidal energy. Renewable energy resources - advantages and disadvantages. Available technologies for exploitation of renewable energy. Introduction to main technical- an technological principles application of renewable energy. Distribution and availability of renewable resources. Compatibility and profitability of renewable energy. Variety of renewable strategies. Renewable in Serbia: sources, distribution, capatities and application. *Practical part* Completion of a seminar or scientific paper.			

Recommended literature
    1. Gburčik P., V. Gburčik, M. B. Gavrilov, V. Srdanović and S. Mastilović, (2006): Complementary Regimes of Solar and Wind Energy in Serbia, *Geographica Pannonica*, 10, 22-25.
    2. Marsh W., Grossa, J., (2002): Environmental Geography, Science, Land Use and Earth System, John Wiley & Sons, Inc., New York.
    3. Tong W., (2010): Wind Power Generation and Wind Turbine Design. WIT Press, Southampton, UK, 571.
    4. Twidell, J. and Weir, A. (2005): Renewable Enargy Resources. Spon Press, London, 601.			

Weekly teaching load	Lectures: 4(60)		Student research:
Teaching methodology Oral presentation, dialogue, textual method, illustrative and demonstrative methods with multimedial presentations.			
Grading method (maximal number of points 100)			
Pre-exam obligations	points	Final exam	points
Seminar paper	50	Oral exam	50