Thesis Title	Photovoltaics Reverse Osmosis Desalination Plant
Programme of Studies	MSc in Sustainable Energy Systems
Course	MES 580 Master Thesis
Area of Study	Sustainable Energy Technologies – Solar Energy
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Semester	Fall Semester 2018
Short Description	Acknowledging the high energy consumption of desalination processes, as well as the emerging demands for clean water, this study will aim to the proposal of a novel desalination concept, which combines the use of reverse osmosis membranes and the utilization of renewable energy technologies to meet the needs of electricity production This study aims at the design and pre-engineering of a Photovoltaics reverse osmosis desalination plant. Current state of the art in the field of desalination with the use of renewable energy technologies should be presented. The physical fundamentals of the proposed solution should be analysed. The minimum separation work per unit volume of the desalinated water should be defined, as well as the required specific energy yield of the solar plant. A financial assessment of the proposed concept should also be implemented, based on life cycle costing principles, focusing on the clean water end price. A case study concerning a plant on Cyprus should also be implemented.