
Code	ECE 589
Name	Interdisciplinary Introduction to Quantum Engineering
Hour per week	3 (Theory)
Credit	3
ECTS	10
Level/Year	Graduate / 1, 2
Semester	Fall
Type	Elective
Prerequisites	None
Content	Interdisciplinary introduction to basic concepts of modern engineering of small scale objects; Learning the social impact of modern engineering; Learning the role of modern engineering in the solution of global challenge problems. The course covers: basic principles of quantum approach to modern engineering; concepts of engineering for quantum dots, wires, wells and nanoscale objects; concepts of special and energy control of small scale objects; basic concepts of quantum computation and quantum communication; application of quantum engineering to bio- and medical technologies; social impacts of quantum engineering; role of quantum engineering in the developing of modern and forthcoming technologies; contribution of quantum engineering to solving global challenge problems.
