Department of Mathematics

Course Profile

Course Number: MATH 490	**Course Title: Project**
Required / Elective: Required	**Prerequisite:** Senior Standing
Catalog Description: Reading, literature reviews and research projects in mathematics and related areas under the supervision of an academic advisor; submission of the results in the form of a Project report and oral presentation.	**Textbook / Required Material:** Depending on the subject, articles, textbooks, preprints and monographs.
Course Structure / Schedule: (0+0+6) 3 / 6 ECTS	
Extended Description: Searching and Finding a Mathematical Topic: By using internet and scientific databases (e.g., MathSciNet, Web of Science) Collecting Information: Using Internet Recourses and Library Reading and Paraphrasing Relevant Information Solving a Mathematical Problem and / or Implementing and Algorithm Writing a Report Oral Presentation	
Design content: None	**Computer usage:** scientific databases, mathematic software, for scientific writing Latex, for oral presentations beamer and PowerPoint

Course Outcomes:

By the end of the course the students should be able to:

1. collect, compare, modify and rate information from different type of sources **[5,6]**
2. design, plan, propose, organize and rearrange of a mathematical project **[5,6,7]**
3. construct mathematical arguments **[2,3,6]**
4. compose a scientific report **[5,7,8]**
5. report an oral presentation **[5,7,8]**
6. recognize professional and ethical responsibilities of scientific research and scientific writing **[7,8]**

[2] demonstrate knowledge of mathematics and mechanics to construct, analyze and interpret real world problems,

[3] demonstrate the ability to apply mathematics to the solutions of problems,

[5] have an ability to write computer programs and use algorithms for solving problems,

[6] have a basic knowledge of the main fields of mathematics and mechanics, including differential equations, elasticity theory, fluid mechanics,

[7] have an ability to function both independently and as a member of a multidisciplinary team, **[8]communicate effectively both in written and oral formats,**
Recommended reading: N.J. Higham, *Handbook of writing for the mathematical sciences*, SIAM, 1998.
Teaching methods: Pre-readings, discussions, project, individual work, scientific writing and oral presentation.
Assessment methods: Oral presentation , mathematical report
Student workload: Preparatory reading…… 35 hrs Discussions……...15 hrs Oral Presentations…… 35 hrs Writing Report……..65 hrs **TOTAL …… 150 hrs … to match 25 x 6 ECTS**

Prepared by : Türker Bıyıkoğlu	Revision Date : 08.02.2010