
MATH 588

Introduction to FEM

Homework assignment 1

Date assigned: February 12, 2025

Due date: **February 21, 2025**

- Include a cover page and *this* problem sheet
- Include the printout of your program(s) (if any) for completeness

PROBLEM:

Consider the Dirichlet problem

$$\begin{cases} -\Delta u = -\sin \pi x \sin 2\pi y & \text{in } \Omega \\ u = 0 & \text{on } \partial\Omega. \end{cases} \quad (1)$$

Let Ω be square $(0, 1) \times (0, 1)$.

Write down the variational formulation and solve it using **FreeFem++** package. Include plot of the solution with your submission.