Introduction to Freefem++

GSIS Summer School 2015 (8/2 Sunday)

**Instructor information:**

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**Communication policy:**

* You may email me a question regarding to class and expect a response from me within 48 hours. Usually, I don’t respond in the evenings (after 5PM), weekends, and traveling, and, I trash emails that don’t address me specifically. Please include your name in your email (I need it to find you from the database).
* English will be the common language in class, but you can write me in Japanese.

**Catalog Description:**

* PART I Running sample files
* PART II Poisson equations
* PART III Convection-diffusion equations
* PART IV Navier-Stokes equations

**Prerequisites:**

* Basic Analysis. In particular, I expect that you have heard “weak formulation” “Sobolev spaces” “Diffusion, Navier-Stokes equations”. If you are not familiar with them, do some homework.
* Bring a laptop installed Freefem++. You can download it at <http://www.freefem.org/ff++/> Verify that you can run the soft.
* Download “Slides” and “Running Sample files.zip” at

<http://www.math.is.tohoku.ac.jp/~gaseminar/ss2015p.html>

We will use these files during the course.

**If you fail to download and run any of these files, please visit the help session 8:00~8:50AM　on 8/2.**

**Lecture time and place**

* Main lecture: 9:00~17:00 at Room 207, 2nd floor at GSIS Building.
* Help session: 8:00~8:50 at Room 207, 2nd floor GSIS.

**Gradings**

* **Group work:** You will form a group together with 3 other students at the beginning of the course. Each group should include at least 2 different nationalities and the common language is English. You will solve assigned problems discussing with your group mates and submit your answer during the class. Every student should submit
  + (1) Freefem++ work files in USB. Please label your Freefem++ work as: Problem number\_Your group number\_Your name.
  + (2) Check sheet.

I will randomly select and grade answer from your group, and that grade will count toward your overall course grade (so, make sure that everyone in your group understands and submit the right answer!). The best group will be awarded and their work will be presented on 8/3 during the opening banquet.

* **Penalties** There will be penalties for texting in class, coming to class late, leaving class early. They can disrupt the flow of a lecture or discussion, distract other students, impede learning, and generally erode class morale.

**Students with a documented disability** are advised to notify both your instructor and the Disability Services Office (located in the Health & Wealth Center) to request classroom accommodations based on your disability.

**Expectations inside of class:** Your responsibilities are to come to class on time, take notes, and work on assigned problems. These, along with solving homework problems, are the most important factors to success in this course. No texting and no passive sitting. Please contribute to create a positive learning atmosphere in class; I will be respectful of you and expect respect of both me and the class in return.