# Elementary Number Theory (IBL)
## Math 175, Section 30
## Autumn 2010

Class: TTh 10:30am–11:50am, Eckhart 312
Website: `http://math.uchicago.edu/~tchurch/teaching/175/`

**Instructors**:

Shmuel Weinberger

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**Office hours**: Monday 1pm–2pm.

Thomas Church

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Tuesday 12pm–1pm, Wednesday 1:30pm–2:30pm.

**College Fellow**:

Katharine Turner

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**Office hours**: Thursday 3pm–4pm, Friday 1pm–2pm.

**Problem session**: Tuesday 6pm–7pm (Eckhart 308).

**IBL**: This course will be taught in the mode of Inquiry Based Learning (IBL). This means that we will not lecture or prove things for you. Rather, you will prove the theorems yourself and explain your proofs to each other. The IBL format fosters creativity and a deep understanding of the material. However, its success depends heavily on the students: you must be actively engaged and prepared for class every day.

**Text**: The text for the course will be written by the students throughout the quarter. We will provide sheets (together known as the "script" for the course) with definitions and the statements of results to be proven. After all of the material on one sheet has been presented in class, you will write up the proofs into a journal, which will then serve as a reference text.

**Assignments**: At the end of every class period, a selection of theorems from the sheets will be selected for the following class. Your **main duty** is to be prepared to prove these assigned theorems. You are highly encouraged to work with your classmates on these proofs outside of class, particularly at problem sessions.

After we have completed each sheet, you will type up and turn in your journal: this will encompass all of the theorems and proofs we have discussed in class, except for those marked as exercises. You should take notes in class as we go so that this is an easy chore and not a gargantuan feat. You are ***strongly*** encouraged to type your journal using the math typesetting system LaTeX. We will provide a template for writing math in LaTeX, as well as help getting the system set up on your computer. (See Mr. Church for questions about LaTeX.)

There will also be short weekly homework assignments, which will build on and extend the theorems from the script. You are encouraged to work on homework together, but you must write up your homework individually.

There will be no in-class exams. The final exam will consist of a final assignment and a short individual oral exam. The grade for the course will be calculated as follows:

Class participation: 40%

Journals and homework: 40%

Final exam: 20%