Re: Heuristics for number theory?

Source: http://sci.tech−archive.net/Archive/sci.math/2005−04/msg01621.html

- *From*: "Stephen White" <mildredtoede@xxxxxxxxx>
- *Date*: 11 Apr 2005 14:43:41 −0700

Larry Hammick wrote:
>
> What was the content of your course? Proving that pi is irrational
> is rather untypical in a first course in NT. What else went on?
> And was this course intended for math majors only, or did it
> aim at students of information technology? That would have
> an influence on the instructor's choice of problems, I expect.
> LH
>

The course content so far has consisted of modular arithmetic/divisibility/primality/etc., primality testing, quadratic reciprocity, RSA, continued fractions (with lots of corresponding algebraic/transcendental/irrational stuff mixed in), elliptic curves, diophantine equations, arithmetical functions, moebius inversion, asymptotics, probably lots of other things I can't remember off the top of my head.

Part of the problem, as I see it, is there is no underlying theme. It practically doesn't matter what order you study things in because they're unrelated. In most subjects there is the satisfying feeling of building up but in number theory each new chapter is like "ok, forget everything from the last chapter, now we're going to concentrate on THIS type of problem!" (of course the modular arithmetic stuff and important things like Euler's phi more or less stick− but these are covered in algebra courses or even freshman discrete math (albeit not in anywhere near such excruciating, unnecessary and painful detail))

The course is more or less aimed at math majors, I suppose. There are only 4 or 5 students who regularly attend (9 altogether but most never show up). Of those 4, 2 are math majors, 1 is a grad student linguistics major, 1 is a community college math teacher taking the course for fun, and 1 is an electrical engineer type major.

M. Toede

.

- ***Follow−Ups***:
  - ***Re: Heuristics for number theory?***
    - ◊ *From:* patrick

- ***References***:
  - ***Heuristics for number theory?***
    - ◊ *From:* Stephen White
  - ***Re: Heuristics for number theory?***
    - ◊ *From:* Larry Hammick

- Prev by Date: ***Re: recurrence/proof help please***
- Next by Date: ***Re: Heuristics for number theory?***
- Previous by thread: ***Re: Heuristics for number theory?***
- Next by thread: ***Re: Heuristics for number theory?***
- Index(es):
  - ***Date***
  - ***Thread***