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Teaching Undergraduate Mathematics on the Internet. Pt. 1: Technologies and Taxonomy.

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The world wide web is becoming wider at an increasing rate. It is virtually impossible to take any kind of accurate snapshot of the state of its development. Undergraduate mathematics courses presented on the internet are relative newcomers to the race but nevertheless seem to be increasing in numbers also at a phenomenal rate. Internet education in mathematics is developing as a new mode of teaching with its own characteristics and possibilities, different from any traditional way of teaching. Research on this new mode of teaching is sparse and open research questions are temptingly plentiful. In a study presented in two parts, we try to capture the world of internet teaching of undergraduate mathematics with its myriad of possibilities. In this, the first part, we briefly list some of the technologies involved and we attempt to create some order in the huge number of activities that are available on the web. We give an overview of the scope of mathematics courses presented via the internet and attempt a graphical classification of the different types of web courses. In the second part we discuss characteristics and implications of this mode of teaching/learning mathematics, list possible research issues and envisage possible future trends.

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