

Title: Automorphic Representations

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The theory of automorphic representations (a representation-theoretic reinterpretation and generalization of the classical theory of modular forms) is one of the pillars of the Langlands program. We will recall the classical theory of modular forms, describe how it translates into the theory of $GL_2(\mathbb{Q})$ -automorphic representations, and then turn to the study of automorphic representations for more general groups.

Text: We will probably not follow any one particular source. Students might like to look at Deligne's Antwerp paper "Formes modulaires et representations de $GL(2)$ " and Gelbart's book "Automorphic forms on adèle groups". There are also some good lecture notes on automorphic representations available online, such as these notes by Yiannis Sakellaridis:

<http://math.newark.rutgers.edu/~sakellar/automorphic/>

Prerequisites: algebraic number th