Tutor :

Nuno Ricardo Barroso de Freitas

https://www.icmat.es/miembros/nfreitas/

Method :

Online meetings.

Language :

English, Spanish or Portuguese

Project Title :

The Local-Global Principle

Summary :

The Local-Global Principle, as formulated by Hasse in 1921, relates the behaviour of rational quadratic forms in $\mathbb{Q}$ (a global field) to their behaviour in the p-adic fields $\mathbb{Q}_p$ (local fields). Since then the idead of using local information towards understanding more dificult global properties has been generalized and applied to many problems making Local-Global methods a powerful tool in number theory. In this project, the student will be introduced to the basic ideas of local fields and local-global principles, explore many examples, and study some classical results as the Hasse-Minkowski theorem for quadratic forms over $\mathbb{Q}$.