MATH 460/872 2026-2027
Hopf Algebras & T1
Quantum Groups

Instructor:

Dr. Curtis Wendlandt
wendlandt@math.usask.ca

Course Details

Math 460 CRN 92145
Math 872 CRN 92146

Schedule:

Term 1
M, W 3:30 – 4:50 pm

Tentative Topics:

Some of the topics covered will include:

- Tensor products
- Algebras and their modules
- Coalgebras and their comodules
- Bialgebras and Hopf algebras
- The Yang-Baxter equation and quantum groups

Course Objective:

The goal of this course is to provide an introduction to quantum groups, with emphasis on how they arise as a distinguished sub-branch of the theory of Hopf algebras and their representations. The majority of the course will focus on developing the general framework of Hopf algebras, while drawing heavily from representation theory, Lie theory, and mathematical physics.

Students Who May Be Interested:

Undergraduate students in Mathematics or Mathematical Physics. There also might be some interest among students in Computer Science.

Graduate students in various branches of Pure and Applied Mathematics who wish to build a stronger foundation in representation theory and related topics.

Other Information:

Though the standing requirements for Math 460 are Math 361 and Math 362, students do not need both Math 361 and Math 362 to take this course. In fact, Math 266 (Linear Algebra II) and an interest in algebra should be sufficient. Students interested in learning more about the course are encouraged to contact the instructor.