



---

Students requiring accommodations as a result of disability, must contact the Centre for Students with Disabilities 778-782-3112 or csdo@sfu.ca

---

Instructor: [Dr. Boxin Tang](#)

### **Textbook:**

No textbook required.

### **Course Description:**

This course first discusses some theoretical results that form the foundation for fractional factorial designs and other related designs, and then examines selected modern topics in the theory and practice of such designs.

### **Course Outline:**

1. Regular fractional factorial designs and their construction
2. Minimum aberration and estimation capacity
3. Designs with requirement sets; designs with clear effects
4. Blocked fractional factorials; split plot designs; robust parameter design
5. Orthogonal arrays and their construction
6. Generalized resolution and minimum aberration
7. Orthogonal arrays robust to nonnegligible two-factor interactions
8. Enumeration of orthogonal arrays
9. Latin hypercube designs
10. Supersaturated designs
11. Optimality consideration
12. Hadamard matrices and balanced incomplete block designs

### **Grading Scheme:**

Presentation – 40%

Project – 60%

---

*Students should be aware that they have certain rights to confidentiality concerning the return of course papers and the posting of marks. Please pay careful attention to the options discussed in class at the beginning of the semester. Students are reminded that Academic Honesty is a cornerstone of the acquisition of knowledge. Scholarly integrity is required of all members of the University. Please consult the General Guidelines of the calendar for more details.*

Revised October 2009