Additional Materials

If you are really curious about one of the topics covered in the class and would like to know more, this list provides some additional materials that expand your knowledge. The course is designed to be self contained and none of these resources are mandatory. They are best used for getting a deeper understanding of the course material after you have exhausted the lectures.

Texts on Algorithms

- [Introduction to Algorithms](#) by Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein
- [Algorithms](#) by Robert Sedgewick and Kevin Wayne (free online)
- [Algorithms](#) by Sanjoy Dasgupta, Christos Papadimitriou, Umesh Vazirani

Texts on Constraint Programming

- [Programming with Constraints: An Introduction](#) by Kimbal Marriott, Peter Stuckey
- [Handbook of Constraint Programming](#) edited by Francesca Rossi, Peter van Beek, Toby Walsh
- [The OPL Optimization Programming Language](#) by Pascal Van Hentenryck

Texts on Local Search

- [Local Search in Combinatorial Optimization](#) edited by Emile Aarts, Jan Karel Lenstra
- [Handbook of Metaheuristics (International Series in Operations Research & Management Science)](#) edited by Michel Gendreau, Jean-Yves Potvin
- [Constraint-Based Local Search](#) by Pascal van Van Hentenryck, Laurent Michel

Texts on Linear and Integer Programming

- [Integer Programming](#) by Laurence A. Wolsey
- [Integer and Combinatorial Optimization](#) by Laurence A. Wolsey, George L. Nemhauser
- [Large Scale Linear and Integer Optimization: A Unified Approach](#) by Richard Kipp Martin
- [Introduction to Linear Optimization](#) by Dimitris Bertsimas, John N. Tsitsiklis
- [Understanding and Using Linear Programming](#) by Jiri Matousek, Bernd Gärtner
- [Theory of Linear and Integer Programming](#) by Alexander Schrijver

Other

- [In Pursuit of the Traveling Salesman: Mathematics at the Limits of Computation](#) by William J. Cook

- [TSP Art](#)

Optimization in Pop-culture

- XKCD - [Travelling Salesman Problem](#)
- XKCD - [NP-Complete](#)
- XKCD - [Recipes](#)
- [Travelling Salesman Movie](#)
- [Final Olympic Results](#) - Winter 2010
- [The Problem of the Traveling Politician](#) by William J. Cook
- [Mario is hard](#)
- [Lemmings is hard](#)
- [Candy Crush is hard](#)

Problem Libraries

- [CSPLib](#)
- [MIPLIB](#)
- [PrefLib](#)
- [TSPLIB](#)

The Community

This course is only a brief introduction to the world of optimization and we hope it is just the beginning of your engagement with the community. During and after this course you can engage with the optimization community by participating in online groups, attending conferences, and enrolling in summer schools. Below are lists of well established venues that can help you get involved with the community.

Community Groups

- Association for Constraint Programming (ACP)
- Optimization Online
- OR Exchange
- sci.op-research
- NEO VRP

Optimization Conferences

- Constraint Programming : 2016, 2013, 2011
- EURO
- Informs
- Integration of Artificial Intelligence and Operations Research techniques in Constraint Programming : 2016, 2013, 2012, 2011
- Integer Programming and Combinatorial Optimization : 2016, 2013
- International Symposium Mathematical Programming : 2015, 2012
- Mixed Integer Programming Workshop : 2015, 2013

Summer Schools

- ACP Summer School : 2016, 2013, 2012, 2011

Blogs

- Constraint Programming Standardization Blog
- disORiented
- greenOR
- Michael Trick's Operations Research Blog
- My Constraint Programming Blog
- Operations Research in the World Around Us
- OR at Work

- [O.R. by the Beach](#)
- [OR Complete](#)
- [OR in an OB World](#)
- [ThinkOR - Think Operations Research](#)
- [Yet Another Math Programming Consultant](#)
- [Computational Operations Research](#)
- [Constraint Applications Blog](#) by Helmut Simonis