NORTH CAROLINA STATE UNIVERSITY
EDWARD P. FITTS DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING

ISE501-651 INTRODUCTION TO OPERATIONS RESEARCH
SUMMER 2024

Weekly Course Schedule

INSTRUCTOR: S. SEBNEM AHISKA KING
SUMMER SESSION 1 – MAY 15 to JULY 26, final exam window: JULY 29-30
Important dates

- May 15, first day of classes
- May 27, Memorial Day, no classes
- **Exam 1 window: June 13-14**
- June 19, Juneteenth observed, no classes
- June 20-21, no classes for 10-week courses
- July 4, Independence Day, no classes
- **Exam 2 window: July 11-12**
- July 26, last day of classes
- **Exam 3 window: July 29-30**

Week	**Lecture Recordings to watch**	**Topics**	**HW/Project Assignments**	**Exam Dates**
1. May 15-17	Lecture 1: 01/09/24 Lecture 2: 01/11/24 Lecture 3: 01/16/24	Course Overview Introduction to Model Building (LINDO, EXCEL SOLVER, GAMS)	HW1 due Sun, May 19	
2. May 20-24	Lecture 4: 01/18/24 Lecture 5: 01/23/24 Lecture 6: 01/25/24	Introduction to Model Building (GAMS) Linear Programming (Introduction, Graphical Solution)	HW2 due Sun, May 26	
3. May 27-31	(May 27 no class) Lecture 7: 01/30/24 Lecture 8: 02/01/24 Lecture 9: 02/06/24	Linear Programming (Graphical Solution, Simplex algorithm)	HW3 due Sun, June 2	

4. June 3-7	Lecture 10: 02/08/24 Lecture 11: 02/15/24 Lecture 12: 02/22/24	Linear Programming (Simplex, Two-phase algorithm) Aggregate planning problem	HW4 due Sun, June 9	
5. June 10-14	Lecture 13: 02/27/24 Exam 1: June 13-14	Project overview Aggregate planning problem	Project posted: Proposal due Sun June 30 Report due Fri Jul 26	Exam 1 Exam window: June 13-14 Based on: Lectures 1-11, HW1-4
6. June 17-21	Lecture 14: 02/29/24 (June 19, 20 and 21 no class)	Linear Programming (Aggregate Planning problem, Revised simplex algorithm)	HW5 due Sun, June 23	
7. June 24-28	Lecture 15: 03/05/24 Lecture 16: 03/07/24 Lecture 17: 03/19/24	Linear Programming (Revised Simplex, Sensitivity analysis)	HW6 and Project Proposal due Sun, June 30	
8. July 1-5	(July 4, no class) Lecture 18: 03/21/24 Lecture 19: 03/26/24	 Sensitivity analysis Network Models (Shortest Path)	HW7 due Sun, July 7	
9. July 8-12	Lecture 20: 03/28/24 Exam 2: July 11-12	Network Models (Shortest Path, Max Flow)		Exam 2 Exam window: July 11-12 Based on: Lectures 11-18, HW5-7
10. July 15-19	Lecture 21: 04/04/24 Lecture 22: 04/09/24 Lecture 23: 04/11/24	Network Models (Max Flow, Project Scheduling, Min Cost Network Flow, Min Spanning Tree)	HW8 due Sun, July 21	
11. July 22-26	Lecture 24: 04/16/24 Lecture 25: 04/18/24 Lecture 26: 04/23/24	Integer Programming (Knapsack, Fixed-charge problem, Set Covering, Either-or constraint) Review Problems on IP modeling	HW9 and Project report due Fri, July 26	
12. July 29-30	Exam 3 (Final exam): July 29-30			Exam 3-Final exam Exam window: July 29-30 Based on: Lectures 19-26, HW8-9 and review problems