

Where to find the slides content in the Lecture notes

Page numbering refers to the page of the entire PDF "Lecture notes" (e.g. page 130/201) and not to the numbering at the bottom of each page since it restarts from 1 at each chapter.

LECTURE 1.1

- Introduction

LECTURE 1.2

- The process system → pg.10-12
- Exergy analysis → Borel-Favrat: Chapters 11-12-13-14 + application pg. 104-112 (also uses concepts presented later in the semester)

LECTURE 2.1

- DTmin → pg. 27-30
- Investment costs → pg.41-46 + pg. 147-157

LECTURE 3.1

- MER & Problem Table Method → pg. 30-34
- Composite Curves & Grand Composite Curves → pg.30-35
- More in more out → pg. 38-39

LECTURES 4.1 & 4.2

- HEN design (pinch design method) → pg.47-54
- Loops & paths → pg. 56-58
- Another example of penalizing HE → pg. 176-179

Interesting example summarizing lectures 2 to 4 → pg. 62-90

LECTURE 5.1

- Same content as 4.2

LECTURE 6.1

- Defining hot & cold streams → pg. 158-174 (includes the full example done in class)

LECTURE 6.2

- Plus minus principle → pg. 95-101
- Heat pump → pg. 15-16 + 125-129 + 184-185

LECTURE 7.1

- Utility integration → pg. 113-130
- More in depth + scenario evaluation → pg. 179-196

Synthesis of utility systems and heat exchanger networks (Week 10):

- Not covered in the lecture notes, see references from the course "Modelling and Optimisation of Energy Systems"

LECTURE 11.1 (Week 10):

- Heat Load Distribution → pg. 55-56
- Mixed Integer Non-linear programming (MINLP) methods → pg. 59-60

EXERGY ANALYSIS AND UTILITY INTEGRATION

- Exergy analysis → Borel-Favrat: Chapters 11-12-13-14
- Very complete presentation about this topic: pg. 104-137 (covers also different types of utilities, re use some concepts previously presented).

LECTURE 12.1

- Example brewery → pg. 173-197