Dipartimento di Ingegneria Industriale

Process Instrumentation & Control [PI&C]

Strumentazione e Controllo dei Processi Chimici [0612200040]

Dipartimento di Ingegneria Industriale

COURSE ORGANIZATION

Lecturers and Schedule

Diego CACCAVO (dcaccavo@unisa.it)
Gaetano LAMBERTI (glamberti@unisa.it)

Monday (10:30 - 13:30) - Room L (Building E2)
Friday (11:30 - 13:30) - Room N (Building E1)

Tentative course organization:

- First two weeks: all the lectures by Gaetano
- From third to twelfth weeks: Monday Gaetano, Friday Diego

Course Main Topics

Dipartimento di Ingegneria Industriale

Process *Control*

- Process modeling
- Control algorithms
- Control systems

Control *Instrumentation*

- Sensors
- Actuators
- Transmitters

Final Exam

Dipartimento di Ingegneria Industriale

Exam will be a written test:

1. Two problems, three question for each problem; or one problem, six questions;
2. 5 points (/30) each question (maximum grade 30/30);
    1. 100% of the grade for a correct answer,
    2. 80-90% for a numerical mistake,
    3. 50-70% for a (minor) non-numerical error,
    4. 0-40% for a (major) non-numerical error.
3. Usually, one problem will be on Process ***Control*** and one problem on Control ***Instrumentation***.

Final Exam

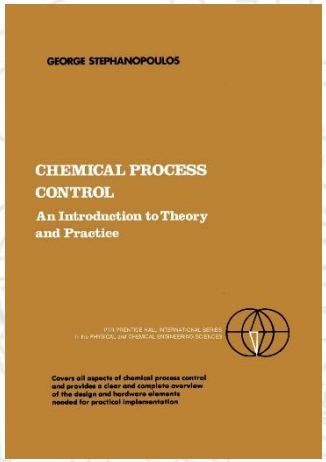
Dipartimento di Ingegneria Industriale

The rules for the exam are:

1. The exam is *open book*, meaning that you can use books, notes, PC with internet switched off, it is forbidden to cooperate;
2. The duration will be 2 hours;
3. You have to give back to the examiners only the sheet they will give to you. On this sheet, you should write the results and any other info you want to communicate to us. Different sheets will be not accepted;
4. If you want to let us have a file with the problems solved, you must send it to us within half an hour after the ending of the test, using your institutional email (@studenti.unisa.it) sending it to: <glamberti@unisa.it>, <dcaccavo@unisa.it>;
5. Object of the mail, as well as the name of the file must be: “YYYY MM DD PIC Last name First name". YYYY = year, MM = month, DD = day.

Suggested Textbooks

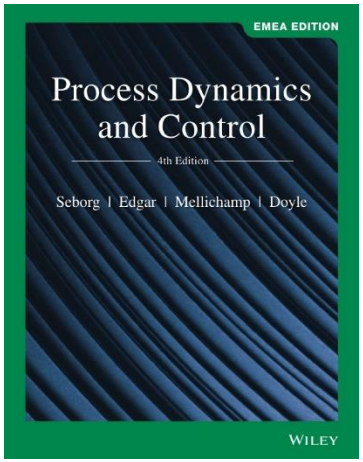
Dipartimento di Ingegneria Industriale



[1] Chemical Process Control: An Introduction to Theory and Practice

George Stephanopoulos

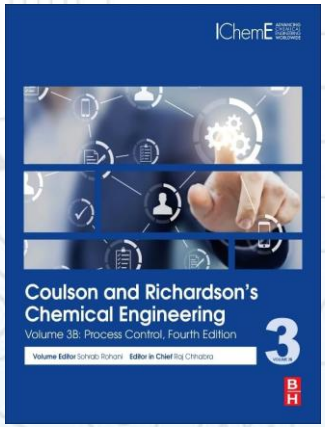
https://www.amazon.it/Chemical-Process-Control-Prentice-Hall-Stephanopoulos/dp/B012HULZH2/



[2] Process Dynamics and Control

Dale E. Seborg, Thomas F. Edgar, Duncan A. Mellichamp, Francis J. Doyle III

https://www.amazon.it/Process-Dynamics-Control-Dale-Seborg/dp/1119587492/



[3] Coulson and Richardson's Chemical Engineering. Volume 3B: Process Control

Sohrab Rohani

https://www.amazon.it/Coulson-Richardsons-Chemical-Engineering-Process/dp/0081010958/

[4] Tecnologie dei sistemi di controllo

Gianantonio Magnani, Gianni Ferretti, Paolo Rocco

in Italian

https://www.amazon.it/Tecnologie-sistemi-controllo-Gianantonio-Magnani/dp/883867275X/

Webpage(s)

Dipartimento di Ingegneria Industriale

[a] Course catalogue UniSA

https://unisa.coursecatalogue.cineca.it/insegnamenti/2024/511755/2016/10000/500186

[b] "Personal" webpage

https://www.gruppotpp.it/0612200040-STRUMENTAZIONE-E-CONTROLLO-DEI-PROCESSI-CHIMICI/