



Universidade Federal de Santa Catarina  
Centro Tecnológico  
Departamento de Engenharia Química e  
Engenharia de Alimentos



## Programa de Pós-Graduação em Engenharia Química

### PLANO DE ENSINO TRIMESTRE 2023.3

#### I. IDENTIFICAÇÃO DA DISCIPLINA

Código	Nome da disciplina	Créditos	Período
ENQ510020	<i>Tópicos Especiais em Engenharia Química: Processamento de Materiais Cerâmicos</i>	03	2024.2

#### II. PROFESSOR MINISTRANTE

*Agenor de Noni Jr*

#### III. TUTOR

N/A

#### IV. PRESENÇA NAS ATIVIDADES SÍNCRONAS

Computed by online access and nomination call

#### V. CURSO E PÚBLICO-ALVO

Master's/PhD's in Chemical Engineering

#### VI. EMENTA

Powder flowability characterization; particle size reduction and size enlargement; packaged and fluidized bed system; solids transport and storage; solids-solid and solid-fluid mixing and separation; energy, environment and safety in solids process; flowsheet of solids process.

#### VII. OBJETIVOS

To train the master's or doctorate student in Chemical Engineering regarding solid materials processing technologies, with regard to equipment, fundamental equations and recent research in the area

#### VIII. CONTEÚDO PROGRAMÁTICO

Powder flowability characterization; particle size reduction and size enlargement; packaged and fluidized bed system; solids transport and storage; solids-solid and solid-fluid mixing and separation; energy, environment and safety in solids process; flowsheet of solids process.

#### IX. METODOLOGIA DE ENSINO / FORMA DE TRABALHO

Expository classes according to the calendar below.  
Expository activities by students

Teaching resources used in asynchronous activities: Video; Text in pdf; Fixation exercises.

## X. METODOLOGIA DE AVALIAÇÃO

Scoring process:

Seminars: 2 seminars will be held (S1, S2)

The final score for the course will be the arithmetic average S1 and S2

## XI. CRONOGRAMA

*Schedule: Tuesday, 13:30 – 17:10*

week	day	Subject
1	28/mai	Powder flowability characterization;
2	04/jun	Solids transport and storage;
3	11/jun	Particle size reduction and size enlargement;
4	18/jun	Packaged and fluidized bed system;
5	25/jun	Packaged and fluidized bed system;
6	02/jul	Seminar 1
7	30/jul	Solids-solid and solid-fluid mixing and separation;
8	06/ago	Solids-solid and solid-fluid mixing and separation;
9	13/ago	energy, environment and safety in solids process;
10	20/ago	Seminar 2
11	27/ago	flowsheet of solids process.
12	03/set	flowsheet of solids process.

## XII. BIBLIOGRAFIA

Towler G., Sinnott R. Chemical Engineering Design, Second Edition, Elsevier, 2013

Heinrich S. Dynamic Flowsheet Simulation of Solids Processes, Springer, 2020

Jonathan Seville and Chuan-Yu Wu. Particle Technology and Engineering. Elsevier, 2015

Huang B., Liu C-T. Advanced Powder Materials, Elsevier (journal)

L.-S. Fan. Powder Technology, Elsevier (Journal)

CAPES C.E. Handbook of Powder Technology. Particle Size Enlargement, Elsevier, 1980

LADISLAV SVAROVSKY. Handbook of Powder Technology. Vol 3. Solid—Gas Separation, Elsevier, 1981

RALPH D. NELSON Jr. Handbook of Powder Technology. Dispersing Powders in Liquids, Elsevier, 1988

MEL PELL. Handbook of Powder Technology. Gas Fluidization, Elsevier, 1990

A. Levy, H. Kalman. Handbook of Powder Technology. Handbook of Conveying and Handling of Particulate Solids, Elsevier, 2001

A.D. Salman, M.J. Hounslow, J.P.K. Seville Handbook of Powder Technology. Granulation, Elsevier, 2007

A.D. Salman, Mojtaba Ghadiri, Michael J. Hounslow. Seville Handbook of Powder Technology. Particle Breakage, Elsevier, 2007.