

Pre class activity: Conversion and reactor sizing

Lecture notes for chemical reaction engineering

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- Read chapter 2 of Elements of Chemical Reaction Engineering ([Fogler 2016](#)).
- In this lecture we will be using python/ jupyter to solve problems related to reactor sizing. It is therefore essential that you bring a laptop for the lectures/ workshops this week.

We will be working through online jupyter notebooks hosted on Google colab. You can possibly work with iPads or other tablets, but I haven't tested it so you are on your own.

If you haven't already,

- Watch [Get started with Google Colaboratory \(Coding TensorFlow\)](#)
- Visit [Google colab](#). Go through the overview
- Check out following examples:

[Overview of Colaboratory Features](#)

[Markdown Guide](#)

[Charts in Colaboratory](#)

- Revisit the concept of interpolation and polynomial fitting
 - We will be using CubicSpline interpolation function from the `scipy.interpolate` library. Go through documentation for [1-D interpolation](#)
 - For curve fitting, we will use polynomial fitting function `polyfit` from `numpy`. Go through the documentation for [numpy.polyfit](#)
- Refresh numerical integration concepts such as trapezoid, Simpson's 1/3 or 5/8 rule etc.
 - We will be using general purpose quad function from the `scipy.integrate` library. Go through documentation for [Integration \(scipy.integrate\)](#)

Fogler, H. Scott. 2016. *Elements of Chemical Reaction Engineering*. Fifth edition. Boston: Prentice Hall.