# Chemical Process Simulation using DWSIM

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| **Course Title** | Chemical Process Simulation using DWSIM |
| **Course Category** | Pedagogy / Specialized Skills |
| **Relevant Discipline(s)** | Chemical Engineering / Petrochemical Engineering/ Chemical Technology / Industrial Biotechnology |
| **Duration of course in equivalent integer no. of days (min 3 days, 1 day = 6 hrs of lectures/hands on sessions)** | 3 days<br>6 hrs of lectures / hands-on-session / problem-solving-session / feedback on each day |
| **Proposed dates** | 18-20 February 2021 |

**Brief Course Description and Course Contents**

Chemical Process Simulation is one of the basic lab courses in the undergraduate curriculum of chemical engineering / petrochemical engineering/ chemical technology / industrial biotechnology disciplines. The aim of this workshop is to work out a methodology to teach this course effectively at the undergraduate level. Exposure to this tool will help researchers also. It will also help improve the employment in industry, as careful use of this tool can increase the productivity in industry.

All of the above will be achieved through DWSIM, a free and open source chemical process simulation software. DWSIM is an excellent alternative to Aspen Plus. DWSIM can be used free of cost by the industry also.

At the end of this workshop, participants will be able to:

- create a material stream
- simulate pressure changers
- simulate heater/cooler/heat exchangers
- create binary phase envelope
- simulate reactors
- perform sensitivity analysis and adjust
- simulate separation columns
- simulate process flowsheets using DWSIM

In addition, the participants will be exposed to advanced topics, such as the custom model creation, and addition of new molecules to the property estimation database.

The workshop will be conducted using a mix of pre-recorded spoken tutorial videos with side by side learning and live lectures. A number of practice problems will also be provided after every topic followed by discussions on them to get a good understanding of each topic.

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| All participants will get the DWSIM software, Spoken Tutorials on DWSIM, copies of our slides, video recording of all lectures, several flowsheets solved using DWSIM, and several custom models. Using these all who are interested in conducting DWSIM workshops by themselves can do so. They will also get exposed to the collaborative content creation activity of the FOSSEE Project. |

| **S. No.** | **Name of the Instructor** | **Department** | **Email** |
|---|---|---|---|
| 1. | Prof. Kannan Moudgalya | Chemical Engineering | kannan@iitb.ac.in |
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FOSSEE team members will help conduct the hands-on sessions.