



CHE656 - Plant Design Project Groups  
ChEPS Class-26, Semester 2 of 2022



Technical Advisor: Dr. Hong-ming Ku  
General Advisor: Dr. Nonsee Nimitsiriwat

| Team/Project                                     | English Advisors | Members  |
|--|------------------|--|
| <b>Group 1</b>                                   | Dr. Nonsee       | 1. Ms. Anchittha Cheeparanai<br>2. Mr. Piyalap Wongsirichon<br>3. Mr. Krittaphop Teerapitikul                      |
| Part (a): AIChE NSDC Year 2013<br>Part(b): BMA   |                  |  |
| <b>Group 2</b>                                   | Dr. Chutima      | 1. Mr. Peerawat Karncharanwong<br>2. Ms. Pichaya Thongkumsuk<br>3. Mr. Sopon Vutipow<br>4. Mr. Tanawat Chakatthada |
| Part (a): AIChE NSDC Year 1994<br>Part (b): SCA  |                  |  |
| <b>Group 3</b>                                   | Dr. Kwanchanok   | 1. Ms. Suphasuta Dueanchai<br>2. Mr. Vichaiyut Oancherd<br>3. Ms. Wanatchaporn Teerasong                           |
| Part (a): AIChE NSDC Year 1999<br>Part (b): TLBO |                  |  |
| <b>Group 4</b>                                   | Dr. Asawin       | 1. Mr. Worapol Prapapitaya<br>2. Ms. Irin Wattanapiyarom<br>3. Ms. Apitchaya Jongjitsook                           |
| Part (a): AIChE NSDC Year 1993<br>Part (b): ABCA |                  |  |
| <b>Group 5</b>                                   | Dr. Paritta      | 1. Mr. Chatchai Roekyen<br>2. Mr. Ang Hein Cyi<br>3. Mr. Tanapon Sonwong<br>4. Mr. Thanapon Chokamnuayporn         |
| Part (a): AIChE NSDC Year 2007<br>Part (b): MSPO |                  |  |

**Presentation Timetable:**

Part (a):

Proposal Presentations – Thursday February 2, 1:30 pm

- Attended by Aj Ming, Aj Chutima, Aj Thongchai, and Aj Kwan

Progress I Presentations – Thursday February 16, 1:30 pm

- Attended by Aj Ming, Aj Thongchai, and Aj Asawin

Final Presentations – Thursday March 9, 1:30 pm

- Attended by Aj Ming, Aj Chutima, and Aj Thongchai

Part (b):

First Presentations – Friday April 7, 1:30 pm

- Attended by Aj Ming, Aj Alisa, and Aj Asawin

Final Presentations – Thursday April 27, 1:30 pm

- Attended by Aj Chutima, Aj Thongchai, and Aj Kwan

### **Part (a): AIChE National Student Design Competition Problems**

- **Year 1993** – Integrated Coal Gasification Combined Cycle Power Generation Plant Design
- **Year 1994** – Waste Water Treatment for a Nitration Process
- **Year 1999** – Dicyclopentadiene Recovery from By-Product of Naphtha Steam Cracking
- **Year 2007** – Separation Technology Evaluation for Economic Recovery of Pyridine
- **Year 2013** – Comparison of Bio-mass to Bio-oils Reactor Systems Direct Conversion vs. Companion Coal Gasification

### **Part (b): Using Metaheuristic Algorithms to Solve Complex Chemical Engineering Optimization Problems**

- Artificial Bee Colony Algorithm (ABCA)
- Modified Swarm Particle Optimization (MSPO)
- Teaching Learning Based Optimization (TLBO)
- Bat Metaheuristic Algorithm (BMA)
- Sine Cosine Algorithm (SCA)