

Otto York Department of Chemical Engineering
ChE 702-002: Professional Development
Tuesdays, Thursdays, 4:00-5:35 PM (FMH 205)

Course Instructor: Rajesh N. Davé, YCEES 308, 973 596 5860, dave@njit.edu

This course is strictly for doctoral students from CBPE department of those being advised by CBPE faculty. There will be interactive sessions and class participation, presentations, as well as homework and projects. There will be guest lectures from senior doctoral students, postdocs, and industry practitioners with expertise in IP and entrepreneurship.

Lecture Topics:

- Why am I doing a PhD? Understanding what it takes to earn a PhD – cost to you
- Setting priorities – top-down strategy
- Time management – four quadrants
- Win-win strategy – seven (eight) habits of highly effective people
- Best practice in research planning
 - Examining literature (good and bad papers)
- Best practice in communicating/writing
 - Key elements of your message
 - Understanding the importance of novelty
 - Develop presentation/paper outlines
 - Writing effective abstracts and conclusions
 - Structure of a paper
- Making an impact and improving productivity
 - Mentoring undergraduates and master's students for increased output
 - Working with your advisor to reduce his time burden
 - What is the cost of your PhD to your advisor and how to get the biggest bang for money?
- Developing effective proposals
- Papers versus IP/patents; getting the most from available literature
- Innovation and entrepreneurship, including competing for an NSF I-Corp award

Homework and attendance: Homework must be submitted on time at the beginning of the class electronically. Numerous assignments will be given pertaining to reading of relevant papers and submitting a summary in form of PPT slides. In addition, you will also submit various elements of a paper from your own research. Attendance is required and all absences without prior email approval will lead to loss of credit towards attendance grade.

Grading: Final grade will depend on: HW and project submissions (40 %), class presentations and participation (25 %), and final class project (25 %). Attendance counts towards 10 % of the grade and hence is very important.