Bioseparation Engineering BBL 731

Instructor

Ashish Misra

Assistant Professor

DBEB

ashishmisra@dbeb.iitd.ac.in

Course logistics

- Lectures (Slot C)
  - TWF 8-8:50
  - II LT2

- Practicals (2 – 5 PM)
  - TTh (1 group on each day)
  - Departmental UG lab

Course logistics

- Lectures
  - Use Timble for attendance
  - tpastd@admin.iitd.ac.in (*for any issues*)
  - Attendance sheet in class
  - Contact the instructor for any issues

- Practicals
  - Attendance sheet in UG lab
  - Maintain lab book (any notebook) for practicals
  - Contact the TA for any issues

Any Questions??

Course evaluation

Midsem   35
Major   40
Lab   25

- Minor and Major
  - Closed book and notes
  - 2 A4 sheets with any hand written content

Any Questions??

Course evaluation

- Lab Practicals
  - 8 marks for performing lab (need to be present and take signatures in lab book)
  - 8 marks for analysis of lab results in lab book
  - 9 marks for final lab/lab book evaluation

- Unable to attend lab practical
  - Make up in following class (preferred/if possible)
  - Make up labs after all lab for semester complete
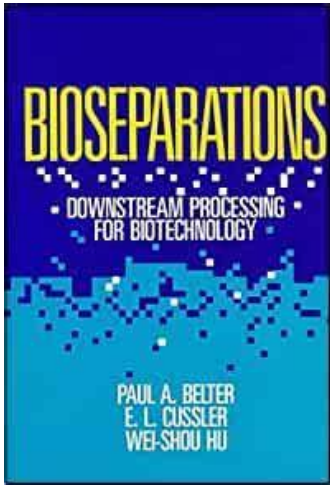
Any Questions??

Course content

- Introduction & Characterization of bioproducts
- Cell disruption
- Filtration
- Centrifugation
- Extraction
- Adsorption
- Elution Chromatography
- Precipitation
- Microfiltration, Ultrafiltration and electrophoresis
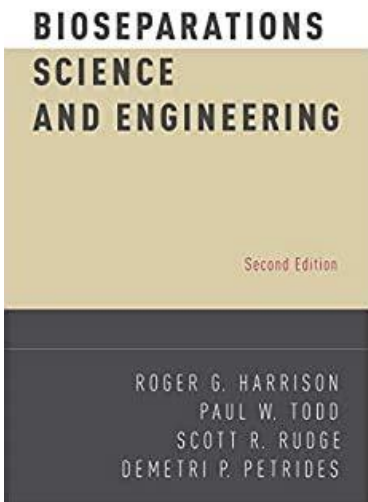- Crystallization & Drying

Tentative lecture distribution

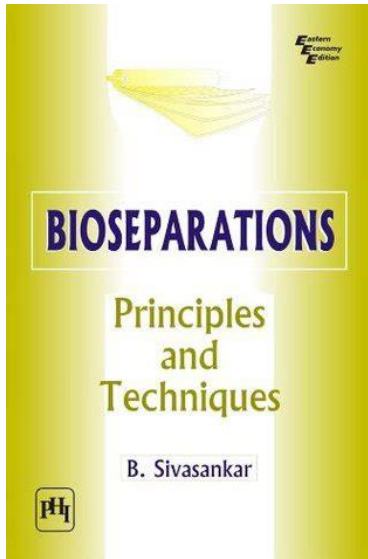| No	Topic	Lectures
1	Introduction & Characterization of bioproducts	2
2	Cell disruption	3
3	Filtration	5
4	Centrifugation	5
5	Extraction	4
6	Adsorption	4
7	Elution Chromatography	5
8	Precipitation	4
9	Microfiltration, Ultrafiltration and electrophoresis	4
10	Crystallization & Drying	4

References

1. Bioseparations: Downstream Processing for Biotechnology
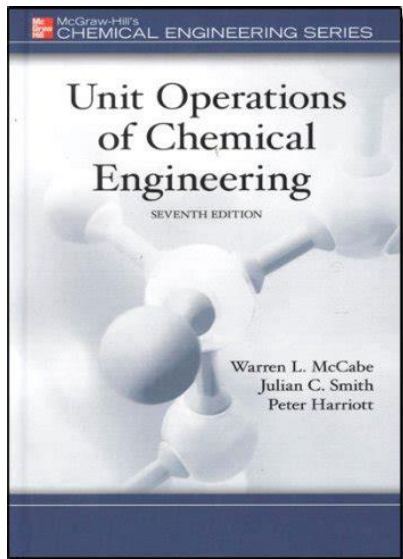

2. Bioseparations Science and Engineering

References

3. Bioseparations: Principles and Techniques

4. Unit Operations of Chemical Engineering

Important Information

- Email contact
  - ashishmisra@iitd.ac.in
  - BBL731 in subject line

- Course documentation
  - Moodle