

Polymeric Materials

School of Chemical and Biological Engineering 458.645
2nd semester, 2019

Meets on Mondays and Wednesdays 12p30 – 13p45 at Rm 302-719

Instructor Jae Young Jho, Rm 302-731, x8346, jjjho@snu.ac.kr

Website SNU eTL (etl.snu.ac.kr) ~ course materials

Studying 1st half; Characteristics, properties, testing, processing of polymers
2nd half; Industrial and functional applications of polymers

Textbook Chanda, Plastics Technology Handbook, 5th Edn, CRC Press, 2018

References [properties] van Krevelen and te Nijenhuis, Properties of Polymers, 4th Ed, Elsevier, 2009
[processing] Tadmor and Gogos, Principles of Polymer Processing, 2nd Ed, Wiley, 2006
[materials] Brydson, Plastics Materials, 7th Edn, Butterworth Heinmann, 1999

Grading 2 Exams x 100 points

Tentative schedule

| <u>Week of</u> | <u>Chapters</u> | <u>Content</u> | <u>Remarks</u> |
|--------------------|--------------------------------|---------------------|----------------|
| Sept 2, 4 | Ch 1. Characteristics | Structure | |
| Sept 9, 11 | | Performance | |
| Sept 16, 18 | | Additives | |
| Sept 23, 25 | Ch 3. Properties and testing | Properties | |
| Sept 30, Oct 2 | | Testing | |
| Oct 7 | Ch 2. Fabrication | Processing | No class 10/9 |
| Oct 14, 16 | | Compounding | |
| Oct 21 | Ch 4. Industrial polymers | Chain polymers | |
| 12:30-14:30 Oct 23 | | <i>Midterm Exam</i> | <i>Ch 1-3</i> |
| Oct 28, 30 | | Step polymers | |
| Nov 4, 6 | | Others | |
| Nov 11, 13 | Ch 5. Polymers in special uses | Engineering | |
| Nov 18, 20 | | Functional | |
| Nov 25, 27 | Ch 6. Recycling | | |
| Dec 2, 4 | Ch 7. Trends in applications | Structural | |
| Dec 9 | | Functional | |
| 12:30-14:30 Dec 11 | <i>Final Exam</i> | <i>Ch 4-7</i> | |