

Course outline

- Physical properties of agricultural materials
- Materials handling as a system
- Conveying and handling equipment for solid agricultural materials: Their design, operating characteristics and selection for different services
- Cleaning, grading and sorting of agricultural produce
- Grain and forage drying
- Principles of size reduction
- Mixing of feed ingredients
- Automation and controls
- Transportation and Receiving of produce
- Queuing theory
- Introductory ergonomics

References

1. CIGR Handbook of Agricultural Engineering (1999). Published by the American Society of Agricultural Engineers.
2. Cruz, J. F. and Diop, A. (1989). Agricultural Engineering in development: Warehouse technique. FAO Agricultural Services Bulletin 74.
3. Collins, H. 1985. Mechanical conveyors for bulk solids. Elsevier, Amsterdam.
4. Mohsenin, N. N. (1984). Physical properties of food and agricultural materials: A teaching manual. Gordon and Breach Science Publishers. New York.
5. Perry and Henderson. 1976. Agricultural Process Engineering. American Society of Agricultural Engineers.
6. Phirke P. S., (2004). Processing & Conveying Equipment Design. Jain Brothers, pp. 181-231.
7. Srivastava, Carroll E. Goering and Dennis R. Buckmaster (2006). Engineering principles of agricultural machines, 2nd ed., 491 – 524. St. Joseph, Michigan; ASABE.
8. Williams, D. B. and Gracey, A. D. (1994). Maintenance and operation of bulk grain storage. FAO Agricultural Services Bulletin 113.