Perancangan Teknik II

Course Brief Description:	The course is designed to provide students with knowledge and skills in engineering design which they can apply in designing simple agricultural tools and equipment. This course discusses concepts, principles and procedures in engineering design and basic calculations for dimensions of machine element, and apply the engineering design in mini projects
Course Learning Objectives:	[1] Student will be able to demonstrate understanding in engineering design. [2] Students will be able to demonstrate understanding of procedures in engineering design [3] Students will be able to demonstrate capability to calculate the dimension of machine element related to engineering design [4] Students will be able to design a machine, equipment or product related to agricultural engineering
Related Expected Learning Outcomes (ELOs):	• ELO-3: Apply knowledge of mathematics, sciences, and engineering principles in agricultural fields. • ELO-4: Use quantitative analysis, information technology and critical thinking in agricultural engineering profession • ELO-5: Use techniques, skills, and modem tools necessary for agricultural engineering practices. • ELO-7: Ability to design simple equipment, components, or processes needed in agricultural engineering operations • ELO-10: Explore and develop effective solutions related to agricultural engineering issues
Teaching Method	• Lecture and in-depth discussion • Independent assignment • Mini Project
Grading Policy	• Quiz and Assignment : 20% • Exam : 20% • Mini Project : 60%
Reference	• AK. Srivastava, CE. Goering, RP. Rohrbach, DR. Buckmaster, 2006. Engineering Principles of Agricultural Machines, 2nd Edition. American Society of Agricultural and Biological Engineers, Michigan. • Harsokoesoemo, H.D., 2004, Pengantar Perancangan Teknik (Perancangan Produk), Bandung, ITB press
Lecturer Name	• Prof Dr. Ir. Junaedi Muhidong, M.Sc • Dr. Ir. Abdul Waris, MT • Muhammad Tahir Sapsal, STP., M.Si

- Samsuar, STP., M.Si

Lecture Outline

Lecture:	Topic:	
1	Introduction: Designing Machine, Equipment and Products	
2	Design in Farm Machinery	
3	Design in Soil and Water Engineering	
4	Design in Post-harvest Technology and Food Processing	
5	Planning in Design (Group Discussion)	Mini Project
6	Planning in Design (Presentation I)	
7	Planning in Design (Presentation II)	
8	**Mid Test**	
9	Design Implementation (Group Discussion)	
10	Design Implementation (Review I)	
11	Design Implementation (Review II)	Discussion Pleno I
12	Design Evaluation (Group Discussion)	
13	Design Evaluation (Review I)	
14	Design Evaluation (Review II)	Discussion Pleno II
15	Report of Machine, Implement, Product Design	
16	**Final Exam**	