



VIGNAN UNIVERSITY

School of Mechanical Engineering
Vadlamudi – 522 213, Guntur Dist., A.P., India.

**VIGNAN'S FOUNDATION FOR SCIENCE, TECHNOLOGY AND
RESEARCH UNIVERSITY:: VADLAMUDI**

Minutes of Meeting of Board of Studies (BoS)

Date: 19.04.2012

Board of Studies Meeting (BoS) of B.Tech Agriculture Engineering of Vignan's Foundation for Science Technology and Research University is conducted on 19th April, 2012 at Gallery hall AFTF-05 U-Block, Vignan's Foundation for Science Technology and Research University, Vadlamudi.

The following members are present for the Board of Studies meeting of Agriculture Engineering,

1. **Dr. V. K. Tewari,**
Professor, Agriculture and Food Engineering Department, IIT, Kharagpur
2. **Dr. Aum Sharma**
Principal Scientist & University Head, Farm Implements & Machinery project, ANGRAU, Rajendra Nagar, and Hyderabad.
3. **Dr. D. Bhaskar Rao**
Associate Dean, College of Agricultural Engineering ANGRAU, Rajendra Nagar, Hyderabad
4. **Dr. C. Ranga Rao,**
Director, Evaluation, VU
5. **Dr. P. Krishna Prasad,**
Director, Academics. VU
6. **Dr. K. Phaneendra Kumar,**
Professor & HOD, Mech. Engineering, Vignan University
7. **Dr. K. P. Vidhu,**
Associate Professor, Vignan University
8. **Mr. T. Anup Kumar,**
Assoc. Prof. Mechanical Engineering, Vignan University

General Observations and Recommendations of the Committee

1. Prospects and scope:

Availability of qualified Agriculture Engineers in the State is very less.

- There is high demand and shortage of supply.
- There is a reservation of 20% of posts of Agriculture Officers in the State for B Tech Agriculture Engineering graduates.
- In the State - run AP Agro, B Tech Agriculture Engineering is a qualification for selection.
- The University, being situated in rural area with farming background, will have good advantage of starting a programme suiting to the rural needs.

2. Course structure and syllabus

The course structure is defined within the frame work of VU, keeping in view of the ICAR defined courses.

3. Requirements of Lab

The following laboratories are essential for the conduct of the programme,

- Farm machinery and equipment lab
- Farm power and renewable energy lab
- Soil water conservation lab
- Crop process engineering lab

4. Faculty recruitment

Committee strongly recommends a separate Department in the Name of Agriculture engineering for the programme.

The following were highlighted while finalizing the courses and syllabus as per the directions of the committee

- ~~As the B.Tech Agriculture Engineering program is being floated for the first time, Choice based credit system (CBCS) is being implemented to provide more flexibility in curriculum.~~
The structure is shown in Appendix-I
- The Curriculum is encompassing the courses oriented towards Agriculture needs of the region that enable employability/skill development/entrepreneurship.
- Feedback is obtained from Industry experts and Academicians in designing the curriculum, and the list of new courses are provided in Appendix-II.



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5. Books and Journals

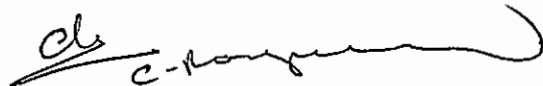
- Departmental Library to be setup with all necessary books for the programme.
- Enough copies should be available in the Central Library also.
- Online journals from Science Direct / ASABE etc to be procured.
- The University can become a member of ASABE for accessing all the journals.
- In addition, subscriptions to AMA, AET (ICAR) and JAE (ICAR) are also required.

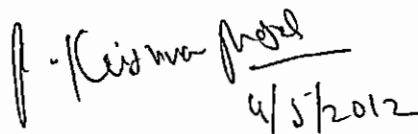

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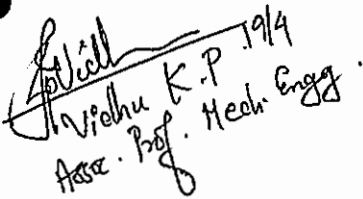
(Prof V.K. Tewari)
IIT, Kharagpur


19/4/2012


19/4/12
Dr. K.P. Kumar


c-kumar


4/5/2012


19/4
Dr. K.P. Kumar
Asst. Prof. Mech. Engg.

APPENDIX-I

B.Tech. I Year - Course Structure SEMESTER - I

Subject	L	T	P	To	C
Fundamentals of Electrical Engineering	4	0	-	4	4
Engineering Mathematics - I	3	1	-	4	4
Engineering Chemistry	4	0	-	4	4
Environmental Studies	3	-	-	3	3
Engineering Materials	4	-	-	4	4
Professional Ethics, Values and Human Rights	2	-	-	2	-
Practical Courses:					
Fundamentals of Electrical Engineering Lab	-	-	3	3	2
Engineering Chemistry Lab	-	-	3	3	2
Engineering Graphics	1	-	2	3	3
TOTAL	21	1	8	30	26

SEMESTER - II

Subject	L	T	P	To	C
Problem Solving and Computer Programming	4	1	-	5	5
Engineering Physics	3	1	-	4	4
Technical English Communication	3	2	-	5	5
Engineering Mathematics - II	3	1	-	4	4
Engineering Mechanics	3	1	-	4	4
Network Security	2	-	-	2	-
Practical Courses:					
Computer Programming Lab	-	-	3	3	2
Engineering Physics Lab	-	-	3	3	2
Workshop Practice	-	-	3	3	2
TOTAL	18	6	9	33	28

II B.Tech. COURSE STRUCTURE SEMESTER - I

Subject	L	T	P	To	C
Engineering Properties of Biological Materials and Food Quality	4	0	-	4	4
Soil and Fluid Mechanics	3	1	-	4	4
Strength of Materials and Design of Structures	3	1	-	4	4
Probability & Statistics	3	1	-	4	4
Farm Power and Renewable Energy Sources	3	1	-	4	4
Seminar - I	-	-	1	1	1
Minor - I	4	0	-	4	4
Practical Courses:					
Mechanics Lab	-	-	3	3	2
Strength of Materials and Design of Structures	-	-	3	3	2
Farm Power and Renewable Energy Sources	-	-	3	3	2
Total	20	4	9	33	31

SEMESTER - II

Subject	L	T	P	To	C
Heat and Mass Transfer	3	1	-	4	4
Data Structures	4	0	-	4	4
Drying and Storage Engineering	3	1	-	4	4
Theory of Machines	3	1	-	4	4
Crop Production & Processing Technology	4	0	-	4	4
Seminar - II	-	-	1	1	1
Minor - II	4	0	-	4	4
Practical Courses:					
Surveying & Levelling Lab	-	-	3	3	2
Soft skills Lab	-	-	3	3	2
Crop Process, Drying and Storage Engineering Lab	-	-	3	3	2
Total	21	3	9	33	31

III B.Tech. COURSE STRUCTURE SEMESTER - I

Subject	L	T	P	To	C
Machine Design	3	1	-	4	4
Farm Machinery and Equipment	3	1	-	4	4
Ground Water, Wells and Pumps	3	1	-	4	4
Watershed Hydrology	3	1	-	4	4
Elective - I					
Food Packaging Technology	4	0	-	4	4
Farm Power and Machinery Management	3	1	-	4	4
Remote Sensing & GIS Applications	3	1	-	4	4
Seminar - III	-	-	1	1	1
Minor - III	4	0	-	4	4
Practical Courses:					
Machine Drawing	-	-	3	3	2
Database Management and Internet	-	-	3	3	2
Farm Machinery and Equipment	-	-	3	3	2
Total	19	5	9	33	31

SEMESTER - II

Subject	L	T	P	To	C
Irrigation Engineering	3	1	-	4	4
Tractor Systems and Controls	3	1	-	4	4
Dairy and Food Engineering	3	1	-	4	4
Drainage Engineering	3	1	-	4	4
Elective - II					
Development of Processed Products and Equipments	4	0	-	4	4
Tractor Design and Testing	3	1	-	4	4
Watershed Planning and Management	3	1	-	4	4
Seminar - IV	-	-	1	1	1
Minor - IV	4	0	-	4	4
Practical Courses:					
Irrigation and Drainage Engineering Lab	-	-	3	3	2
Field Operation and Maintenance of Tractors and Farm Machinery	-	-	3	3	2
Mini Project	-	-	3	3	2
Total	19	5	9	33	31

IV B.Tech. COURSE STRUCTURE SEMESTER - I

Subject	L	T	P	To	C
Soil and Water Conservation and Structures	3	1	-	4	4
Electrical Machines and Power Utilization	3	1	-	4	4
Refrigeration and Air Conditioning	3	1	-	4	4
Managerial Economics	4	0	-	4	4
Elective - III					
Food Processing Plant Design and Layout	3	1	-	4	4
Hydraulic Drive & Controls	3	1	-	4	4
Minor Irrigation and Command area Development	3	1	-	4	4
Elective - IV					
Agricultural Structures and Environment Control	4	0	-	4	4
Mechanics of Tillage and Traction	3	1	-	4	4
Micro Irrigation System Design	3	1	-	4	4
System Engineering	3	1	-	4	4
Practical Courses:					
Refrigeration and Air Conditioning Lab	-	-	3	3	2
Soil & Water Conservation and Structures lab	-	-	3	3	2
Dairy and Food Engineering Lab	-	-	3	3	2
Total	19	5	9	33	30

SEMESTER - II

Subject	L	T	P	To	C
Elective - V					
Design and Maintenance of Greenhouse	3	1	-	4	4
Production Technology for Agril. Machinery	4	0	-	4	4
Gully and Ravine Control Structures	3	1	-	4	4
Elective - VI					
Biomass Management for Fodder and Energy	4	0	-	4	4
Reservoir and Farm Pond Design	3	1	-	4	4
Human Engineering and Safety	4	0	-	4	4
Environmental Engineering	4	0	-	4	4
Minor - V	4	0	-	4	4
Project	-	-	20	20	10
Total	10	3	20	32	22

"The courses that are highlighted denote implementation of Choice Based Credit System (CBCS)"


 Chairman - BoS

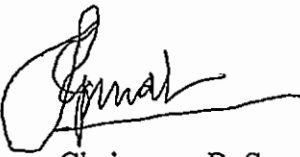
Appendix –II

List of New Courses in the R-13 B.Tech Agriculture Engineering

S.No	Semester (Year)	Course Name
1	I Year I Semester	Fundamentals of Electrical Engineering
2	I Year I Semester	Engineering Mathematics – I
3	I Year I Semester	Engineering Chemistry
4	I Year I Semester	Environmental Studies
5	I Year I Semester	Engineering Materials
6	I Year I Semester	Professional Ethics, Values and Human Rights
7	I Year I Semester	Fundamentals of Electrical Engineering Lab
8	I Year I Semester	Engineering Chemistry Lab
9	I Year I Semester	Engineering Graphics
10	I Year Semester– II	Problem Solving and Computer Programming
11	I Year Semester – II	Engineering Physics
12	I Year Semester – II	Technical English Communication
13	I Year Semester – II	Engineering Mathematics – II
14	I Year Semester – II	Engineering Mechanics
15	I Year Semester – II	Network Security
16	I Year Semester – II	Computer Programming Lab
17	I Year Semester – II	Engineering Physics Lab
18	I Year Semester – II	Workshop Practice
19	II Year Semester– I	Engineering Properties of Biological Materials and Food Quality
20	II Year Semester – I	Soil and Fluid Mechanics
21	II Year Semester – I	Strength of Materials and Design of Structures
22	II Year Semester – I	Probability & Statistics
23	II Year Semester – I	Farm Power and Renewable Energy Sources
24	II Year Semester – I	Seminar
	II Year Semester – I	Minor project
25	II Year Semester – I	Mechanics Lab
26	II Year Semester – I	Strength of Materials and Design of Structures
27	II Year Semester – I	Farm Power and Renewable Energy Sources
28	II Year Semester – II	Heat and Mass Transfer

29	II Year Semester – II	Data Structures
30	II Year Semester – II	Drying and Storage Engineering
31	II Year Semester – II	Theory of Machines
32	II Year Semester – II	Crop Production & Processing Technology
33	II Year Semester – II	Surveying & Leveling Lab
34	II Year Semester – II	Soft skills Lab
35	II Year Semester – II	Crop Process, Drying and Storage Engineering Lab
36	II Year Semester – II	Seminar
37	II Year Semester – II	Minor project
38	III Year Semester - I	Machine Design
39	III Year Semester-I	Farm Machinery and Equipment
40	III Year Semester -I	Ground Water, Wells and Pumps
41	III Year Semester -I	Watershed Hydrology
42	III Year Semester -I	Food Packaging Technology
43	III Year Semester -I	Farm Power and Machinery Management
44	III Year Semester -I	Remote Sensing & GIS Applications
45	III Year Semester -I	Seminar
46	III Year Semester -I	Minor project
47	III Year Semester -I	Machine Drawing
48	III Year Semester -I	Database Management and Internet
49	III Year Semester -I	Farm Machinery and Equipment
50	III Year Semester - II	Irrigation Engineering
51	III Year Semester -II	Tractor Systems and Controls
52	III Year Semester -II	Dairy and Food Engineering
53	III Year Semester -II	Drainage Engineering
54	III Year Semester -II	Seminar
55	III Year Semester -II	Minor project
56	III Year Semester -II	Development of Processed Products and Equipments
57	Department Elective	Tractor Design and Testing
58	Department Elective	Watershed Planning and Management
58	III Year Semester - II	Irrigation and Drainage Engineering Lab
59	III Year Semester - II	Field Operation and Maintenance of Tractors and Farm Machinery
60	III Year Semester - II	Mini Project
61	IV Year Semester - I	Soil and Water Conservation and Structures
62	IV Year Semester - I	Electrical Machines and Power Utilization
63	IV Year Semester - I	Refrigeration and Air Conditioning

64	IV Year Semester - I	Managerial Economics
65	Department Elective	Food Processing Plant Design and Layout
66	Department Elective	Hydraulic Drive & Controls
67	Department Elective	Minor Irrigation and Command area Development
68	Department Elective	Agricultural Structures and Environment Control
69	Department Elective	Mechanics of Tillage and Traction
70	Department Elective	Micro Irrigation System Design
71	Department Elective	System Engineering
72	Department Elective	Refrigeration and Air Conditioning Lab
73	Department Elective	Soil & Water Conservation and Structures lab
74	Department Elective	Dairy and Food Engineering Lab
75	Department Elective	Design and Maintenance of Greenhouse
76	Department Elective	Production Technology for Agril. Machinery
77	Department Elective	Gully and Ravine Control Structures
78	Department Elective	Biomass Management for Fodder and Energy
79	Department Elective	Reservoir and Farm Pond Design
80	Department Elective	Human Engineering and Safety
81	Department Elective	Environmental Engineering



Chairman -BoS