Academic Course Description

BHARATH University
Faculty of Engineering and Technology
Department of Electronics and Communication Engineering

BSS601 VALUE EDUCATION AND PROFESSIONAL ETHICS
Sixth Semester, 2016-17 (Even Semester)

Course (catalog) description

This subject is used to teach the philosophy of Life, personal value, social value, mind cultural value and personal health. To teach professional ethical values, codes of ethics, responsibilities, safety, rights and related global issues.

Compulsory/Elective course: Compulsory for ECE students
Credit & contact hours : 3 & 45
Course Coordinator : Mr.Ramamoorthy, Asst.Professor.

Instructors :

Name of the instructor	Class handling	Office location	Office phone	Email (domain:@ bharathuniv.ac.in	Consultation
G.kanagavalli	Third year	SA006		Kanagavalli.ece@bharathuniv.ac.in	9.00-9.50 AM
Mr.Ramamoorthy	Third year	SA006			12.45-1.15 PM

Relationship to other courses:

Pre –requisites **:** Nil

Assumed knowledge : The students will have a physics and mathematics background obtained at a high school (or equivalent) level. In particular, working knowledge of basic mathematics including differentiation, integration and probability theories are assumed.

Following courses : Nil

Syllabus Contents

UNIT I : PHILOSOPHY OF LIFE AND INDIVIDUAL QUALITIES **9 HOURS**

Human Life on Earth - Purpose of Life, Meaning and Philosophy of Life. The Law of Nature – Protecting Nature /Universe. Basic Culture - Thought Analysis - Regulating desire - Guarding against anger - To get rid of Anxiety – The Rewards of Blessing - Benevolence of Friendship - Love and Charity - Self – tranquility/Peace

UNIT II : SOCIAL VALUES (INDIVIDUAL AND SOCIAL WELFARE) **9 HOURS**

Family - Peace in Family, Society, The Law of Life Brotherhood - The Pride of Womanhood – Five responsibilities/duties of Man : - a) to himself, b) to his family, c) to his environment, d) to his society, e) to the Universe in his lives, Thriftness (Thrift)/Economics. Health - Education - Governance - People's Responsibility / duties of the community, World peace.

UNIT III: MIND CULTURE & TENDING PERSONAL HEALTH **9 HOURS**

Mind Culture - Life and Mind - Bio - magnetism, Universal Magnetism (God –Realization and Self Realization) - Genetic Centre – Thought Action – Short term Memory – Expansiveness – Thought – Waves, Channelising the Mind, Stages - Meditation, Spiritual Value. Structure of the body - the three forces of the body- life body relation, natural causes and unnatural causes for diseases, Methods in Curing diseases

UNIT IV: ENGINEERING AS SOCIAL EXPERIMENTATION AND ENGINEERS'S RESPONSIBILITIES FOR SAFETY **9 HOURS**

Engineering as Experimentation – Engineer as Responsible Experimenters – Codes of Ethics – The Chalenger, case study. Assessment of Safety and Risk – Risk Benefit Analysis and Reducing Risk – The Three Mile Island and Chernobyl case studies.

UNIT V: ENGINEERS'S RESPONSIBILITIES FOR RIGHTS AND GLOBAL ISSUES **9 HOURS**

Collegiality and Loyalty – Respect for Authority – Collective Bargaining – Confidentiality – Conflicts of Interest – Occupational Crime – Whistle Blowing – Professional Rights – Employee Rights – Intellectual Property Rights (IPR) – Discrimination.
Multinational Corporations – Environmental Ethics – Computer Ethics – Weapons Development –Engineers as Managers – Consulting Engineers – Engineers as Expert Eye Witnesses and Advisors – Moral Leadership

TOTAL PERIODS = 45 HOURS

TEXT BOOKS:

1. Value Education for Health, Happiness and Harmony, The World Community Service, Centre Vethathiri Publications (Unit 1 – III).
2. Mike W Martin and Roland Schinzinger, Ethics In Engineering, Tata Mcgraw Hill, Newyork 2005 (Units IV & V)

REFERENCE:

1. Philosophy of Universal Magnetism (Bio - magnetism, Universal Magnetism) The World Community Service Centre Vethathiri Publications (for Unit III)
2. Thirukkural with English Translation of Rev. Dr. G.U. Pope, Uma Publication, 156, Serfoji Nagar, Medical College Road,Thanjavur 613 004 (for Units I - III)
3. R S Nagaarazan, Textbook On Professional Ethics And Human Values, New Age International Publishers, 2006 (for Units IV-V)
4. Charles D Fledderman, Engineering Ethics, Prentice Hall, New Mexico, 2004 (for Units IV-V)
5. www.waceinc.org/philly2011/conference.../KARSTE~1.PDF

Computer usage: Nil

Professional component

General	-	100%
Basic Sciences	-	0%
Engineering sciences & Technical arts	-	0%
Professional subject	-	0%

Broad area : communication | Signal Processing | Electronics | VLSI | Embedded | **General**

Test Schedule

S. No.	Test	Tentative Date	Portions	Duration
1	Cycle Test-1	February 2nd week	Session 1 to 14	2 Periods
2	Cycle Test-2	March 2nd week	Session 15 to 28	2 Periods
3	Model Test	April 3rd week	Session 1 to 45	3 Hrs
4	University Examination	TBA	All sessions / Units	3 Hrs.

Mapping of Instructional Objectives with Program Outcome

To teach the philosophy of Life, personal value, social value, mind cultural value and personal health. To teach professional ethical values, codes of ethics, responsibilities, safety, rights and related global issues.	Correlates to program outcome		
	H	M	L
1. To learn about philosophy of Life and Individual qualities	e,h	c,g,i	j,k
2. To learn and practice social values and responsibilities	e,h	c,g,i	j,k
3. To learn and practice mind culture, forces acting on the body and causes of diseases and their curing	e,h	c,g,i	j,k
4. To learn more of Engineer as Responsible Experimenter.	c,e,h	g,i	j,k
5. To learn more of Risk and Safety assessment with case studies.	c,e,h	g,i	j,k
6. To learn more of Responsibilities and Rights as Professional and facing Global Challenges	c,e,h	g,i	j,k

H: high correlation, M: medium correlation, L: low correlation

Draft Lecture Schedule

Session	Topics	Problem solving (Yes/No)	Text / Chapter
UNIT I	**PHILOSOPHY OF LIFE AND INDIVIDUAL QUALITIES**		
1.	Human Life on Earth, Purpose of Life	No	[T1] Chapter -1,2
2.	Meaning and Philosophy of Life	No	
3.	Law of Nature , Protecting Nature /Universe	No	
4.	Basic Culture - Thought Analysis	No	
5.	Regulating desire - Guarding against anger	No	
6.	To get rid of Anxiety	No	
7.	The Rewards of Blessing	No	
8.	Benevolence of Friendship	No	
9.	Love and Charity - Self – tranquility/Peace	No	
UNIT II	**SOCIAL VALUES (INDIVIDUAL AND SOCIAL WELFARE)**		
10.	Family - Peace in Family	No	[T1] Chapter -3,4
11.	Society, The Law of Life Brotherhood	No	
12.	The Pride of Womanhood	No	
13.	Five responsibilities/duties of Man	No	
14.	a) to himself, b) to his family, c) to his environment	No	
15.	d) to his society, e) to the Universe in his lives	No	
16.	Thriftness (Thrift)/Economics	No	
17.	Health, Education,Governance	No	
18.	People's Responsibility / duties of the community, World peace	No	

UNIT III	**MIND CULTURE & TENDING PERSONAL HEALTH**		
19.	Mind Culture - Life and Mind	No	[T1] Chapter -5,6
20.	Bio - magnetism, Universal Magnetism (God – Realization and Self Realization)	No	
21.	Genetic Centre – Thought Action	No	
22.	Short term Memory – Expansiveness	No	
23.	Thought – Waves, Channelising the Mind, Stages	No	
24.	Meditation, Spiritual Value. Structure of the body	No	
25.	the three forces of the body- life body relation	No	
26.	natural causes and unnatural causes for diseases	No	
27.	Methods in Curing diseases	No	
UNIT IV	**ENGINEERING AS SOCIAL EXPERIMENTATION AND ENGINEERS'S RESPONSIBILITIES FOR SAFETY**		
28.	Engineering as Experimentation	No	[T2] Chapter -4,5
29.	Engineer as Responsible Experimenters	No	
30.	Codes of Ethics	No	
31.	The Chalenger	No	
32.	case study	No	
33.	Assessment of Safety and Risk	No	
34.	Risk Benefit Analysis and Reducing Risk	No	
35.	The Three Mile Island	No	
36.	Chernobyl case studies	No	
UNIT V	**ENGINEERS'S RESPONSIBILITIES FOR RIGHTS AND GLOBAL ISSUES**		
37.	Collegiality and Loyalty – Respect for Authority	No	[T2] Chapter -6,9
38.	Collective Bargaining – Confidentiality	No	
39.	Conflicts of Interest – Occupational Crime	No	
40.	Whistle Blowing – Professional Rights – Employee Rights	No	
41.	Intellectual Property Rights (IPR) – Discrimination	No	
42.	Multinational Corporations – Environmental Ethics – Computer Ethics	No	
43.	Weapons Development –Engineers as Managers	No	
44.	Consulting Engineers – Engineers as Expert Eye Witnesses	No	
45.	Advisors – Moral Leadership	No	

Teaching Strategies

The teaching in this course aims at establishing a good fundamental understanding of the areas covered using:

- Formal face-to-face lectures
- Small periodic quizzes, to enable you to assess your understanding of the concepts.

Evaluation Strategies

Cycle Test – I	-	5%
Cycle Test – II	-	5%
Model Test	-	10%
Assignment /Seminar/online test/quiz	-	5%
Attendance	-	5%
Final exam	-	70%

Prepared by: Mr.Ramamoorthy, Asst.Professor.

Dated :

Addendum

ABET Outcomes expected of graduates of B.Tech / ECE / program by the time that they graduate*:*

a. An ability to apply knowledge of mathematics, science, and engineering

b. An ability to design and conduct experiments, as well as to analyze and interpret data

c. An ability to design a hardware and software system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability

d. An ability to function on multidisciplinary teams

e. An ability to identify, formulate, and solve engineering problems

f. An understanding of professional and ethical responsibility

g. An ability to communicate effectively

h. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context

i. A recognition of the need for, and an ability to engage in life-long learning

j. A knowledge of contemporary issues

k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Program Educational Objectives

PEO1: PREPARATION

Electronics Engineering graduates are provided with a strong foundation to passionately apply the fundamental principles of mathematics, science, and engineering knowledge to solve technical problems and also to combine fundamental knowledge of engineering principles with modern techniques to solve realistic, unstructured problems that arise in the field of Engineering and non-engineering efficiently and cost effectively.

PEO2: CORE COMPETENCE

Electronics engineering graduates have proficiency to enhance the skills and experience to apply their engineering knowledge, critical thinking and problem solving abilities in professional engineering practice for a wide variety of technical applications, including the design and usage of modern tools for improvement in the field of Electronics and Communication Engineering.

PEO3: PROFESSIONALISM

Electronics Engineering Graduates will be expected to pursue life-long learning by successfully participating in post graduate or any other professional program for continuous improvement which is a requisite for a successful engineer to become a leader in the work force or educational sector.

PEO4: SKILL

Electronics Engineering Graduates will become skilled in soft skills such as proficiency in many languages, technical communication, verbal, logical, analytical, comprehension, team building, interpersonal relationship, group discussion and leadership ability to become a better professional.

PEO5: ETHICS

Electronics Engineering Graduates are morally boosted to make decisions that are ethical, safe and environmentally-responsible and also to innovate continuously for societal improvement.

Course Teacher	Signature
MS. G.KANAGAVALLI	
MR.RAMAMOORTHY	

Course Coordinator **HOD/ECE**