



ASSAM SCIENCE AND TECHNOLOGY UNIVERSITY

Guwahati

Course Structure and Syllabus

MULTIMEDIA COMMUNICATION AND DESIGN (MCD)

SEMESTER II / MCD / B.DES. (BACHELOR OF DESIGN)

SL.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY/TUTORIAL/PRACTICAL						
1	BMD 171201	Professional Ethics and Human Value	2	0	0	2
2	BMD 171202	Introduction to Computer Programming	2	0	4	4
3	BMD 171203	Introduction to Multimedia Communications	2	0	2	3
4	BMD 171204	Introduction to Photography and Videography	3	0	4	5
5	BMD 171205	Introduction to Graphic Design	2	0	4	4
6	BMD 171216	Design Studio – II (Graphic Design Project)	0	0	8	4
TOTAL			11	0	22	22
Total Contact Hours : 33						
Total Credit : 22						

Course Title: PROFESSIONAL ETHICS AND HUMAN VALUE
Course Code: BMD 171201
L-T-P-C: 2-0-0-2

Class Hours/week	2
Expected weeks	12
Total hrs. of classes	24

MODULE	TOPIC	COURSE CONTENT	HOURS
1	Engineering Ethics	Senses of 'engineering ethics' – variety of moral issues – types of inquiry – moral dilemmas – moral autonomy – Kohlberg's theory – Gilligan's theory – consensus and controversy – professions and professionalism – professional ideals and virtues – theories about right action – self-interest – customs and religion – uses of ethical theories	5
2	Engineering as Social Experimentation	Engineering as experimentation – engineers as responsible experimenters – codes of ethics – a balanced outlook on law – the challenger case study	5
3	Responsibility for Safety	Safety and risk – assessment of safety and risk – risk benefit analysis – reducing risk.	4
4	Responsibilities and Rights	Collegiality and loyalty – respect for authority – collective bargaining – confidentiality – conflicts of interest – occupational crime – professional rights – employee rights – intellectual property rights – discrimination	5
5	Global Issues	Multinational corporations – environmental ethics – computer ethics – weapons development – engineers as managers – consulting engineers – engineers as expert witnesses and advisors – moral leadership – sample code of conduct	5
TOTAL			24

TEXTBOOKS / REFERENCES:

1. Mike Martin and Roland Schinzinger, "*Ethics in Engineering*", McGraw Hill, New York, 1996.
2. Charles D Fleddermann, "*Engineering Ethics*", prentice Hall, New Mexico, 1999.
3. Laura Schlesinger, "*How Could You Do That: The Abdication of Character, Courage, and Conscience*", Harper Collins, New York, 1996.
4. Stephen Carter, "*Integrity*", Basic Books, New York, 1996.

Course Title: INTRODUCTION TO COMPUTER PROGRAMMING

Course Code: BMD 171202

L-T-P-C: 2-0-4-4

Class Hours/week	6
Expected weeks	12
Total hrs. of classes	72

MODULE	TOPIC	COURSE CONTENT	HOURS
1	Fundamentals of Computer	History of Computer, Generation of Computer, Classification of Computers, Basic Anatomy of Computer System, Primary & Secondary Memory, Processing Unit, Input & Output devices. Binary & Allied number systems representation of signed and unsigned numbers, BCD, ASCII, Binary. Arithmetic & logic gates. Assembly language, High level language, compiler and assembler (basic concepts) Basic concepts of operating systems like MS DOS, MS WINDOW, UNIX, Algorithm & flow chart.	10
2	C Fundamentals	The C character set, identifiers and keywords, data type & sizes, variable names, declaration, statements	8
3	Operators and Expressions	Arithmetic operators, relational and logical operators, type conversion, increment and decrement operators, bitwise operators, assignment operators and expressions, precedence and order of evaluation. Input and Output: Standard input and output, formatted output – printf, formatted input scanf.	10
4	Flow of Control	Statement and blocks, if-else, switch, loops – while, for, do while, break and continue, goto and labels.	12
5	Fundamentals and Program Structures	Basic of functions, function types, functions returning values, functions not returning values, auto, external, static and register variables, scope rules, recursion, function prototypes, C preprocessor, command line arguments	12
6	Arrays and Pointers	One dimensional arrays, pointers and functions, multidimensional arrays.	10
7	Structures, Unions and Files	Basic of structure, structures and functions, arrays of structures, bit fields, formatted and unformatted files.	10
TOTAL			72

TEXTBOOKS / REFERENCES:

1. Kerningham, B.W. *The Elements of Programming Style*.
2. Yourdon, E. *Techniques of Program Structures and Design*.
3. Schied F.S. *Theory and Problems of Computers and Programming*.
4. Gottfried. *Programming with C*. Schaum.
5. Kerningham B.W. & Ritchie D.M. *The C Programming Language*
6. Rajaraman V. *Fundamental of Computers*.
7. Balaguruswamy. *Programming in C*.
8. Kanetkar Y. *Let us C*.
9. M.M. Oka. *Computer Fundamentals*, EPH
10. Leon. *Introduction to Computers*, Vikas
11. Leon. *Fundamental of Information Technology*, Vikas
12. Ram B. *Computer Fundamentals*, New Age International
13. Ravichandran D. *Programming in C*, New Age International

**Course Title: INTRODUCTION TO MULTIMEDIA
COMMUNICATIONS**

Course Code: BMD 171203

L-T-P-C: 2-0-2-3

Class Hours/week	4
Expected weeks	12
Total hrs. of classes	48

MODULE	TOPIC	COURSE CONTENT	HOURS
1	Introduction	Introduction to Multimedia; Definition, History and Applications of Multimedia; Characteristics of Multimedia; Components of Multimedia System; Static and Continuous Media	12
2	Analog and Digital Signals	Analog and Digital Signals; Analog to Digital and Digital to Analog Conversion.	3
3	Data Compression	Types of Data Compression; Introduction to various Compression Techniques – Shannon Fano, Huffman Coding, LZW Coding, Run-Length Encoding, JPEG, MPEG.	10
4	Elements of Multimedia	Understanding the Elements of Multimedia – Text, Still Images, Graphics, Audio, Video and Animation.	16
5	The WWW	Overview of the Internet; Web Browsers, Internet Services- URL, Dial-ups, ISDN, E-mail, Chat, Cross-Platform Features, Audio & Video Streaming; Internet Applications – Audio & Video conferencing, Internet telephony, World Wide Web, Computer Networks.	4
6	Virtual Reality	Introduction to Virtual Reality; VR-Systems; VR Tools.	3
TOTAL			48

TEXTBOOKS / REFERENCES:

1. Tay Vaughan, *Multimedia: Making It Work*, Ninth Edition, Tata Mc-Graw Hill Education, 2014.
2. Jennifer Coleman Dowling, *Multimedia Demystified*, First Edition, Mc-Graw Hill, 2012.
3. Ze-Nian Li and Mark S. Drew, *Fundamentals of Multimedia*, First Edition, Eastern Economy Edition, PHI Learning Pvt. Ltd.
4. Patrick Buckley, Frederic Lardinois and DODOcase, *Virtual Reality Beginner's Guide + Google Cardboard Inspired VR Viewer*, Regan Arts, 2014, ISBN-10: 1941393101, ISBN-13: 978-1941393109.

**Course Title: INTRODUCTION TO PHOTOGRAPHY
AND VIDEOGRAPHY**

Course Code: BMD 171204

L-T-P-C: 3-0-4-5

Class Hours/week	7
Expected weeks	12
Total hrs. of classes	84

MODULE	TOPIC	COURSE CONTENT	HOURS
1	Basics of Photography	Introduction to Photography, History of camera, Types of camera, Principles of photography, Rule of Third, Golden Ratio.	16
2	Parts of Still Camera	Aperture, shutter speed, lens, filters and flash, Camera films.	18
3	Basics of Videography	Basic components of video camera, Basic shots and shot composition, Camera angles and movements, Camera mountings, camera control unit, Focus & Defocus.	20
4	Lighting for Photography and Videography	What is lighting? Importance of lighting in photography & Videography, Lighting equipment and control, Lighting techniques and problems.	16
5	Theory of Colours	Origin of Colour, Colour Temperature, White Balance: Process and Need.	14
TOTAL			84

TEXTBOOKS / REFERENCES:

1. Wells, Liz, *Photography*, ISBN 978-0-415-46087-3.
2. Kobre, Kenneth, *Photo journalism*, Focal Press, ISBN 978-0-7506-8593-1
3. Millerson Gerold, *Television Production*, Focal Press.
4. Zettl, Herbert, *Handbook of Television Production*, Cengage Learning India Private Limited, Alps Building Ist Floor, 56-Janpath, New Delhi-110001, Reprint 2008 ISBN: 13 : 978-81-315-0508-3.
5. Belavady Vasuky, *Video Production*, Oxford Publication.

**Course Title: INTRODUCTION TO GRAPHIC
DESIGN**

Course Code: BMD 171205

L-T-P-C: 2-0-4-4

Class Hours/week	6
Expected weeks	12
Total hrs. of classes	72

MODULE	TOPIC	COURSE CONTENT	HOURS
1	UNIT - 1	Introduction to elements of graphic design - Text and image, grids and layout, composition, form and function, figure and ground phenomenon. Typographic fonts and their characters.	12
2	UNIT - 2	Gestalt Laws	10
3	UNIT - 3	Typographic parameters: x-height, ascenders, descenders, kerning, tracking and leading. Variations of body text, headlines and display text. Grid in graphic design.	20
4	UNIT - 4	Hands on practice in applications of fundamentals of Graphic Design.	20
5	UNIT - 5	Introduction to Printing Technology. Introduction to Digital Media Technology. Case studies	10
TOTAL			72

TEXTBOOKS / REFERENCES:

1. Swan, *The new Graphic Design School*, VNR, 1997.
2. R. Carter and P. B. Meggs, *Typographic Design: Form and Communication*, John Wiley & Sons, 2000.
3. A. Darley, *Visual Digital Culture*, Routledge, 2000.
4. M. A. Muser and D. Maclean, *Art and Visual Environments*, MIT Press, 1996.
5. R. Hollis, *Concise History of Graphic Design*, Thames & Hudson, 1994.
6. P. B. Meggs, *Type and Image: the language of graphic Design*, VNR, 1992.
7. A. White, *Type of use: effective typography for electronic publishing*, New York Design Press, 1992.

**Course Title: DESIGN STUDIO - II
(GRAPHIC DESIGN PROJECT)**

Course Code: BMD 171216

L-T-P-C: 0-0-8-4

Class Hours/week	8
Expected weeks	12
Total hrs. of classes	96

MODULE	TOPIC	COURSE CONTENT	HOURS
1	Project 1	Project based on following contents: Application of Elements of graphic design - Text and image, grids and layout, composition, form and function, figure and ground phenomenon. Typographic fonts and their characters.	24
2	Project 2	Project based on following contents: Gestalt Laws and its practical application.	24
3	Project 3	Project based on following contents: Applications of Typography in hypothetical and real projects.	24
4	Project 4	Project based on following contents: Application of Printing Technology and Digital Media Technology.	24
TOTAL			96
