

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Syllabus for Ist and IInd Semester
B.Des. Degree 2019

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Course Code	Course Name	L-T-S-P/D	Credits	Year of Introduction
DS101	Design Studio I : Fundamentals of Design I	0-0-9-0	9	2019
Course objective:				
To make students understand the fundamentals of design, elements and principles.				
Syllabus				
Explorations using Points, Lines, Planes and Volumes. Understanding basic design principles. An introduction to colour theory and compositions.				
Expected Outcome:				
Students will be able understand basic elements and principles and their application in design.				
Reference Books:				
<ul style="list-style-type: none"> ● Ching, Francis DK. Architecture: Form, space, and order. John Wiley & Sons, 2014. ● Bustanoby, Jacques Henri. "Principles of color and color mixing." (1947). ● Lauer, David A., and Stephen Pentak. Design basics. Cengage Learning, 2011. ● Hannah, Gail Greet. Elements of design: Rowena Reed Kostellow and the structure of visual relationships. Princeton Architectural Press, 2002. ● Itten, Johannes, and Ernst van Haagen. The Art of color: the subjective experience and objective rationale of color. Van Nostrand Reinhold, 1991. 				

Course Plan			
Module	Contents	Hours	Marks
I	Explorations using elements of design- point, line, plane, volume.	27	25%
II	Pattern and texture: Tessellation and geometrical patterns, Similarities and differences. Texture: Tactile and visual. Gestalt theory of visual perception. Application of Figure and ground.	36	25%
III	Material explorations using different mediums. Creating abstract sculptures out of Paper, Mount Board, Box Board, Metal Foils, clay, plaster and any other material	36	25%
IV	Perception of colour and light. Exploring Colour Schemes based on principles of Harmony and Contrast and degree of Chromatism. Application of colour on compositions	27	25%

Course no.	Course Name	L-T-S-P/D	Credits	Year of Introduction
DS103	Visual fundamentals	2-0-0-0	2	2019
<p>Course Objectives</p> <p>To introduce, explore and understand the making of general aesthetics of a product consistent.</p> <p>To introduce the principles and values that guide and influence the 2 dimensional and 3 dimensional design compositional aesthetics.</p> <p>To promote the visual literacy level and prepare to appreciate the aesthetic components of art and design</p>				
<p>Syllabus</p> <p>Introducing the vocabulary of art and design constituted by elements and principles.</p> <p>Introduction to the meaning, context, and significance of the elements and outcomes of designs in graphics, textiles, ceramics, sculpture, painting and printing as related to design. Improvising the ability to understand, interpret and evaluate visual messages.</p>				
<p>Expected Outcome</p> <ol style="list-style-type: none"> 1. Students will be able to explain the vocabulary of art and design constituted by elements and principles. 2. Students will be able to explain visual meanings, and understand the relationship of art and design 				
<p>Reference Books:</p> <ul style="list-style-type: none"> • Ching, Francis DK. Architecture: Form, space, and order. John Wiley & Sons, 2014. • Cole, Emily. The grammar of architecture. Bulfinch Press, 2002. • Ching, Francis DK, and Steven P. Juroszek. Design drawing. John Wiley & Sons, 2010. • Bustanoby, Jacques Henri. "Principles of color and color mixing." (1947). • Lauer, David A., and Stephen Pentak. Design basics. Cengage Learning, 2011. 				

Course Plan			
Module	Contents	Hours	Sem Exam Marks
I	Introduction to design fundamentals – 2D and 3D. Exposure to various elements and principles of art and design in 2D and 3D – Point, line, plane, volume. Exploration of basic principles of visual compositions and its relationships- balance, rhythm, proportion, Unity etc.	8	30%
II	Ordering principles of design compositions- Visual organization in 3 dimensional abstractions- Grids, Axis, Datum, Transformation etc Aesthetics and visual perception.- Gestalt theory of visual perception	6	25%
FIRST INTERNAL EXAM			
III	Colour, Pattern and texture: Colour theory: Chromatic Values- Value pattern, value as emphasis, value and space. Properties of colour- Hues, complimentary etc. Colour schemes, colour uses, colour symbolism. Pattern and texture: Tessellation and geometrical patterns, Similarities and differences. Texture: Tactile and visual.	8	20%
IV	Visual Literacy: Introduction to the meaning, context, and significance of the elements and outcomes of designs in graphics, textiles, ceramics, sculpture, painting and printing as related to Design. Understanding the relevance of symbols and images in design.	6	25%
END SEMESTER EXAM			

Course No	Course Name	L-T-S-P/D	Credits	Year of Introduction
DS105	Design and Society	2-0-0-0	2	2019
Objective				
<ul style="list-style-type: none"> To provide a sample experience by placing the student in an unfamiliar environment where s/he may learn to draw connections between the environment, cultural practices and problem solving by Design. They may also learn how communities solve problems in their own way. 				
Syllabus				
An introduction to the evolution of design. Post-industrial changes and prominent designers. Design in Indian context.				
Expected outcome				
A student will be able to:				
<ul style="list-style-type: none"> Describe the evolution of design as a discipline and its relationship to the environment. Appraise different philosophies in design. Describe the relation between art, craft and design. Appraise the influence of design on society. 				
Reference Books:				
<ul style="list-style-type: none"> Raizman, David. History of modern design: Graphics and products since the industrial revolution. Laurence King Publishing, 2003. Cross, Nigel. Design thinking: Understanding how designers think and work. Berg, 2011. Whiteley, Nigel. Design for society. Reaktion books, 1997. Jain, Jyotindra, ed. India's popular culture: iconic spaces and fluid images. Marg Publ., 2007. Basham, Arthur Llewellyn. The Wonder that was India: A Study of the History and Culture of the Indian Sub-continent Before the Coming of the Muslims. Hawthorn Books, 1963 Heskett, John. Design: A very short introduction. Vol. 136. Oxford University Press, 2005. Ranjan, Aditi, and M. P. Ranjan. "Crafts of India: handmade in India." Council of Handicraft Development Cooperations: Yeni Delhi (2007). John Scales Avery. Science and Society. World Scientific Publishing Company Pte Limited, 2016 Mazzarella, William. Shoveling smoke: Advertising and globalization in contemporary India. duke university press, 2003. Prakash, Gyan. Another Reason: Science and the Imagination of Modern India. New Delhi: Oxford University Press, 2000 Ramanujan, A.K., "Is there an Indian way of thinking? An informal essay". In India through Hindu Categories. McKim Marriott, ed. Sage Publications, 1990. Gandhi, Mohandas K., Swaraj and Swadeshi, in <i>The Penguin Gandhi Reader</i>. Rudrangshu Mukherjee (editor). Pp. 205-233. Penguin Books. 2010. Charles and Ray Eames, The India Report (1958), NID, Ahmedabad, 1997 Mines, Diane P., and Sarah E. Lamb, eds. Everyday Life in South Asia. Indiana University Press, 2010. 				

Course Plan			
Module	Contents	Hours	Sem Exam Marks
I	Historical Perspective on designer's role in society: Evolution of design. Discoveries and inventions which changed the world. chronological development of design in the context of human evolution	4	15%
II	Design and post - industrial changes. Influence of socio-cultural aspects, Prior to II World War, after II world War, effect on art and design on Globalization. Bauhaus, Ulm. Famous designers and their works : Charles and Ray Eames, Philippe Starck, Dieter Rams, Eva Zeisel, Karim Rashid, Jonanthan Ive, Naoto Fukasawa, Arne Jacobsen etc	8	30%
First Internal Test			
III	What is 'Indian' and how it has been defined over time? Craft as an expression of Indian tradition. Design in the context of India. A few examples of region specific design. Festivals, rituals and customs. The interrelationship between the Indian context (social-historical-political) and design.	10	30%
IV	Design and Social concern: Urban and rural context and needs. Community, Family and individual. An introduction to Humanities and social sciences.	6	25%
Second Internal Test			
End Semester Exam			

Course No	Course Name	L-T-S-P/D	Credits	Year of Introduction
PS101	Communication skills	0-2-0-0	2	2019
Course Objectives				
<ul style="list-style-type: none"> To train the students in all forms of communication to standardize the quality of academic exercises To prepare students to adapt themselves with ease to the industry environment, thus rendering them as prospective assets to industries. 				
Syllabus				
Listening Comprehension, Reading Comprehension, Speaking Skills, Resume / Report Preparation / Letter Writing, Précis writing, Presentation skills and Soft Skills				
Expected Outcome				
To equip students with the necessary communication skills that would help them in their career				
Reference Books:				
<ul style="list-style-type: none"> Anderson, P.V, Technical Communication, Thomson Wadsworth, Sixth Edition, New Delhi, 2007. Evans, D, Decision maker, Cambridge University Press, 1997. John Seely, The Oxford Guide to Writing and Speaking, Oxford University Press, New Delhi, 2004. Prakash, P, Verbal and Non-Verbal Reasoning, Macmillan India Ltd., Second Edition, New Delhi, 2004. Thorpe, E, and Thorpe, S, Objective English, Pearson Education, Second Edition, New Delhi, 2007. Turton, N.D and Heaton, J.B, Dictionary of Common Errors, Addison Wesley Longman Ltd., Indian reprint 1998. 				

Course Plan			
Module	Contents	Hours	Sem Exam Marks
I	Listening Comprehension: Listening and typing – Listening and sequencing of sentences – Filling in the blanks - Listening and answering questions. Reading Comprehension: Filling in the blanks - Close exercises – Vocabulary building - Reading and answering questions.	7	25%
II	Speaking: Phonetics: Intonation – Ear training - Correct Pronunciation – Sound recognition exercises – Common Errors in English. Conversations: Face to Face Conversation – Telephone conversation – Role play activities (Students take on roles and engage in conversation)	7	25%
First Internal Test			
III	Resume / Report Preparation / Letter Writing /Précis writing Structuring the resume / report - Letter writing /Email Communication - Samples.	7	25%
IV	Presentation skills: Elements of effective presentation – Structure of presentation - Presentation tools– Voice Modulation – Audience analysis - Body language Soft Skills: Time management – Articulatness – Assertiveness – Psychometrics – Innovation and Creativity - Stress Management & Poise	7	25%
Second Internal Test			
End Semester Exam			

Course no.	Course Name	L-T-S-P/D	Credits	Year of Introduction
DS107	Graphics I	1-0-3-0	4	2019
<p>Course Objectives</p> <p>To understand the role of visualization in design and to learn how to externalize the visualizations through various illustrations and to learn the fundamental skills and knowledge of image representation in order to be able to represent objects, nature and living beings.</p>				
<p>Syllabus</p> <ul style="list-style-type: none"> ● Structured introduction to the skills of drawing ● Drawing from memory and imagination ● Exploring the material property and composition ● Figure and object drawing ● Inter relationship of visual forms in terms of size scale and over all properties ● Introduction to the new mediums and tools 				
<p>Expected outcome</p> <p>Students acquire the basic skills by understanding the basics of the free hand sketching and help in realizing the final sketches and presentations that equip the student's ability to express the ideas in a professional method.</p>				
<p>Reference books:</p> <ul style="list-style-type: none"> ● Edwards Betty; New drawing on the right side of the brain. Publisher: Tarcher 2002 ● D.K Francis; Design Drawing, John Wiley and Sons, 1998 ● T C Wang; pencil sketching, John Wiley & sons, 1997 ● Dalley Terence Ed; the complete guide to illustration & design, Phaidon, Oxford 1980 				

Course Plan			
Module	Contents	Hours	Sem Exam Marks
I	Simple geometric forms and composition, principles of perspective, effect of light and shadows on surface composition, understanding the basics of proportions and application of scales in drawing and representation of the same. Introduction to lettering and typography.	16	25%
II	Natural forms and sketching, natural forms animals, birds, trees, flowers etc, the human body and its parts, human proportions and proportioning systems.	12	25%
First Internal Test			
III	Man made form sketching, introduction to product sketching, understanding the proportions and material properties, importance of line weights in representation.	12	25%
IV	Introduction to different mediums tools and instruments to create illustrations, rendering of man-made and natural objects using various mediums, creation of product presentation sheets.	16	25%
Second Internal Test			
End Semester Exam			

Course no.	Course Name	L-T-S-P/D	Credits	Year of Introduction
PS103	Digital Skills-I	0-0-0-3	1	2019
<p>Course Objectives</p> <ul style="list-style-type: none"> To explore, discover and understand the fundamentals involved in two-dimensional design, its elements, features and principles. Learning the essential skills and knowledge of image representation in order to visualize ideas, concepts and final representations and being able to transform these for different interpretations and applications in a digital format. 				
<p>Syllabus</p> <ul style="list-style-type: none"> Exposure to elements of design through a digital platform Form exploration in the context of products Product presentation using a digital platform Exposure to vector graphics Introduction to basic three – dimensional modelling 				
<p>Expected Outcome</p> <ul style="list-style-type: none"> Students will be able to visualize and ideate their designs with precision and quality. Students will understand the different ways of representing their Designs and Sketches. 				
<p>Reference Books:</p> <ul style="list-style-type: none"> White, Alex W. The elements of graphic design: space, unity, page architecture, and type. Sky horse Publishing, Inc., 2011. Edwards, Betty; New Drawing on the Right Side of the Brain, Publisher: Tarcher; 2002 Dalley Terence ed.; The complete guide to illustration & design, Phaidon, Oxford, 1980 T. C. Wang; Pencil Sketching, John Wiley & Sons,1997 Pogany, Willy ; The Art of Drawing, Publisher: Madison Books, 1996 R. Kasprin; Design Media – Techniques for water colour, pen and ink, pastel and coloured markers, John Wiley & Sons,1999 Porter, Tom; Design Drawing techniques for architects, graphic designers and artists, Oxford; Architectural Press,1991 Dalley Terence ed.; The complete guide to illustration & design, Phaidon, Oxford, 1980 				

Course Plan			
Module	Contents	Hours	Sem Exam Marks
I	Learning the fundamental skills and knowledge of image in the context of elements of Design. <ul style="list-style-type: none"> • 2D representation skills with the help of design platform • Study of Elements of Design through a Design Platform • Students will be able to understand the different ways of representation done with the help of a design software. 	12	25%
II	Form generation <ul style="list-style-type: none"> • Study of form generations and its relation with the elements of nature. • Evolution of form in nature. • Students will be able to able to gain a certain level of proficiency in application and contextual use of form and colour 	12	25%
FIRST INTERNAL EXAM			
III	Vector Graphic representations <ul style="list-style-type: none"> • Introduction to Logo Design, Collage • Grid based drawing, Analytical Representation • Students will be able to create their own unique vector based designs 	9	25%
IV	Introduction to Basic 3d Modelling <ul style="list-style-type: none"> • Basic Parametric Design Generation and its Applications • Students will gain the ability to complete basic 3d models of their designs 	9	25%
SECOND INTERNAL EXAM			
END SEMESTER EXAM			

Course Code	Course Name	L-T-S-P/D	Credits	Year of Introduction
DS102	Design Studio II : Fundamentals of Design II	0-0-9-0	9	2019
<p>Course objective:</p> <p>To make students understand the fundamentals of design and form generation</p>				
<p>Syllabus</p> <p>Explorations using different materials and form.</p>				
<p>Expected Outcome:</p> <ul style="list-style-type: none"> ● Students will be able to understand basic fundamentals of form generation. ● Students will be able to design using various materials and demonstrate their properties. 				
<p>Reference Books:</p> <ul style="list-style-type: none"> ● Ching, Francis DK. Architecture: Form, space, and order. John Wiley & Sons, 2014. ● Bustanoby, Jacques Henri. "Principles of color and color mixing." (1947). ● Lauer, David A., and Stephen Pentak. Design basics. Cengage Learning, 2011. ● Hannah, Gail Greet. Elements of design: Rowena Reed Kostellow and the structure of visual relationships. Princeton Architectural Press, 2002. ● Itten, Johannes, and Ernst van Haagen. The Art of color: the subjective experience and objective rationale of color. Van Nostrand Reinhold, 1991. ● Elam, Kimberly. Geometry of design: studies in proportion and composition. Princeton Architectural Press, 2001. ● Murphy, Pat, William Neill, and Diane Ackerman. By nature's design. San Francisco, CA: Chronicle Books, 1993. 				

Course Plan			
Module	Contents	Hours	Marks
I	Colour in 3 dimensions. Effects of colour in various context, emotional aspects etc.	30	25%
II	Advance studies in form with inspirations from nature and experimentation with dynamic forms, positive and negative forms.	33	25%
III	Material explorations using different mediums. Concept of concavity, convexity etc	30	25%
IV	Theme based project. Mood board preparation. Colour schemes, Symbols, artifacts, patterns etc based on a theme.	33	25%

Course No	Course Name	L-T-S-P/D	Credits	Year of Introduction
EH102	Designerly Thinking	2-0-0-0	2	2019
<p>Objective</p> <ol style="list-style-type: none"> 1. The objective of the course would be to provide the student with a clear understanding of the discipline of design. 2. They will be able to be much more articulate on the nature of design activity, design behavior and design cognition. 3. To empower the students to think in a clear, logical, reasoned and reflective manner. 4. To identify critical design issues, solve design problems through rational decision making. 				
<p>Syllabus</p> <ol style="list-style-type: none"> 1. An introduction to thinking patterns, drawing information from datasets, removing vagueness and ambiguity from design premises. 2. Relevance of concise and precise statement preparations and correlate critical thinking to design decisions 				
<p>Expected Outcome</p> <p>The students will be able to understand the different method of knowing and be aware of the nature of design ability such as ill-defined problems, adopting solution-focused cognitive strategies, employing appositional thinking and using non-verbal modeling media. They will also learn how to identify and mould their creative thinking to develop novel ideas and design solutions.</p>				
<p>Reference Books:</p> <ul style="list-style-type: none"> - Cross, Nigel (2007). Designerly Ways of Knowing (1st edition). - Cross, Nigel (2011). Design Thinking: Understanding How Designers Think and Work. - Kelley, Tom & Littman, Jonathan (2001). The Art of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm (1st edition). - Lawson, Bryan. (2006). How Designers Think (4th edition). - Stickdorn, Marc (2012). This is Service Design Thinking: Basics, Tools, Cases. - Brown, Tim (2009). Change By Design: How Design Thinking transforms Organizations and inspires Innovation. - Piotrowski C M (2011), Problem Solving and Critical Thinking for Designers; Wiley Books April 2011 - Lipman, M. (1991). Thinking in education. Cambridge: Cambridge University Press, 205-241 				

Course Plan			
Module	Contents	Hours	Sem Exam Marks
I	Introduction to human mind, the process of thinking. Introduction to Philosophical & Psychological foundations of thinking process and knowledge acquisition. Process of critical thinking- Identify, Evaluate, Analyse, Describe, Interpret. Converge and divergent thinking. Critical thinking vs Creative thinking. Areas of application of critical thinking skills to professional practice. Claims, arguments, Premise, Conclusion. Good and bad arguments. Definition of Critical thinking, Applications of critical thinking.. Critical thinking and use of language. Clarity of statements	10	20%
II	Designerly Ways of Knowing: Meaning of 'Design'. Understanding design culture- study, methods and values and its difference from science and humanities. Design process – problem definition, Pattern synthesis, learning from past culture. Comparative study of designerly problem-solving and scientific problem-solving. Design Ability: Nature of design ability – ill- defined problems, solution-focusing strategies, abductive/ productive/ appositional thinking, and use of non-verbal, graphic / spatial modeling media.	6	25%
First Internal Test			
III	Creative Cognition& Strategies: Understanding Creative leap/ Intuition – preparation, incubation, illumination, verification. Identifying and modeling the leap – combination, mutation, analogy, design from first principles, emergence. Bridging by articulation of concept- recognition of relationship between problem and solution. Creative Strategies–Bauhaus, Ulm education and its limitations. Case Studies of famous designers: Charles and Ray Eames, Philippe Starck, Dieter Rams, Eva Zeisel, Karim Rashid, Jonathan Ive, Naoto Fukasawa, Arne Jacobsen etc. Nature of Design Expertise – approach to problems, problem framing, designing from first principles.	8	30%
IV	Design as a Discipline: Design as a skill. Design by Drawing. Design by science. Design as craft. Design Research – people, processes, products. Approaches to design: Design Thinking (IDEO), Service design, business model, Technology. Subjectivity, Objectivity and Prescriptiveness in claims, Value judgments, Use of definitions in design. Correlation between critical thinking & Art appreciation. Applying critical thinking in aesthetic judgement.	4	15%
Second Internal Test			
End Semester Exam			

Course No	Course Name	L-T-S-P/D	Credits	Year of Introduction
DS104	History of Design	3-0-0-0	3	2019
Objective <ul style="list-style-type: none"> To make students understand the evolution of design through cultural history. To help students develop a capacity to identify and understand factors contributing to innovation and new trends in design. 				
Syllabus <p>An introduction to the evolution of design. Influential concepts in design. Milestones and development in design.</p>				
Expected outcomes: <p>A student will be able to:</p> <ul style="list-style-type: none"> Describe the evolution of design as a discipline and its relationship to the environment. Appraise different philosophies in design. Describe the relation between art, craft and design. Appraise the influence of design on society. 				
Reference Books: <ul style="list-style-type: none"> Raizman, David. History of modern design: Graphics and products since the industrial revolution. Laurence King Publishing, 2003. Whiteley, Nigel. Design for society. Reaktion books, 1997. Heskett, John. Design: A very short introduction. Vol. 136. Oxford University Press, 2005 Charles and Ray Eames, The India Report (1958), NID, Ahmedabad, 1997 Karasová, Daniela. HMFD: The History of Modern Furniture Design. Museum of Decorative Arts in Prague, 2012. 				

Course Plan			
Module	Contents	Hours	Sem Exam Marks
I	Early developments in Design: Demand and production, Expanding industry in the early 19 th cent. Arts and Craft movement. Developments in Merchandising, Printing and advertising.	9	15%
II	Legacy of reforms: Art Modern before and after world war I. Machine age in Europe. Fordism. Dynamism and Classism. De Stijl, Bauhaus and beyond. Design scenarios in the US. Case studies in American Industrial Design.	12	30%
First Internal Test			
III	Design after World war II. International Modernism. Promotion of post war design in art direction and advertising. Cases in Italy, Germany, Japan and Scandinavia. Design and post modernism.	12	30%
IV	Reforms and Social responsibility: Consumption of design. Design in digital age. Creativity, responsibility and resilience.	9	25%
Second Internal Test			
End Semester Exam			

Course No	Course Name	L-T-S-P/D	Credits	Year of Introduction
DS106	Graphics II	1-0-3-0	4	2019
Course objectives				
To introduce students to the fundamental techniques of technical drawing, with an introduction to typography and role of geometry in typography.				
Syllabus				
<ul style="list-style-type: none"> ● Use and application of Scales. Orthographic projection of points, lines, planes, solids and combinations placed in different positions. ● Section of solids, Intersection of surfaces, Development of Surfaces, Isometric projections, Perspective projections – One point, two point and Three point ● typography and lettering systems 				
Expected Outcome				
Upon completion of the course, students will develop the necessary skills to analyze and solve basic problems involving solids and its variations and its representation in 3d formats in geometrically correct drawing and type for representation applications				
Reference books:				
<ul style="list-style-type: none"> ● Baines, Phil, and Andrew Haslam. <i>Type & typography</i>. Laurence King Publishing, 2005. ● Rabinowitz, Tova. <i>Exploring typography</i>. Cengage Learning, 2015. ● Clair, Kate, and Cynthia Busic-Snyder. <i>A typographic workbook: A primer to history, techniques, and artistry</i>. John Wiley & Sons, 2012. ● Svensen, Carl Lars, and William Ezra Street. <i>Engineering graphics</i>. Van Nostrand, 1962. ● Bhatt, N. D. "Engineering Drawing." Charotar Publishing House Pvt. Ltd (1980) ● Rajaraman,S., Practical Solid Geometry. ● Varghese, P. I., Engineering Graphics, V.I.P Publishers. ● Venugopal, K., Engineering Drawing and Graphics, New Age International Publishers 				

Course Plan			
Module	Contents	Hours	Sem Exam Marks
I	<p>History and development of early writing, Calligraphy: Indian and European scripts. The art of writing: Calligraphy alphabets and visual art.</p> <p>History of Type - The anatomy of type: Type specifications, Type classifications. Designing with type. Communication through typography.</p> <p>Digital typography; exploring variables in Type- size, weight, leading, kerning, tracking etc.</p>	12	25%
II	Orthographic Projection of Solids: Simple solids in simple position, prisms, regular pyramids, tetrahedron, octahedron, cone, spheres	16	25%

	<p>and their combinations placed in different positions. Section of solids: Section of simple solids by planes inclined. True shape of sections.</p> <p>Auxiliary projections of simple solids and combinations. Change of position and auxiliary plane method.</p>		
First Internal Test			
III	<p>Intersection of surfaces: Line of intersection of two prisms, two cylinders and cone Development of surfaces: Development of surfaces of simple solids, prisms, cylinders, pyramids, cones, spheres and truncated solids.</p>	12	25%
IV	<p>Isometric Projection : Isometric scale, isometric view of planes , simple solids, truncated solids , combination of objects</p> <p>Perspective projection: Perspective projection of simple solids and their combinations by visual ray method and vanishing point method.</p>	16	25%
Second Internal Test			
End Semester Exam			

Course no.	Course Name	L-T-S-P/D	Credits	Year of Introduction
PS102	Digital Skills-II	0-0-0-3	1	2019
Course Objectives <ul style="list-style-type: none"> To explore, discover and understand the fundamentals involved in 3-dimensional CAD - its elements, features and principles. To develop skills to use CAD from concept development to specification framework for production 				
Syllabus <ul style="list-style-type: none"> Exposure to various elements and principles of design in 3D. Radii Manipulation, Form Transition, Form Metamorphosis. Interface design Process, Introduction to semiotics. Exposure and demonstration of detailing with 3D Modeling Software. Computer aided photorealistic rendering methods 				
Expected Outcome <ul style="list-style-type: none"> Students will be able to conceive advanced level of design interpretation using advanced 3d modelling and Rendering Software 				
Reference Books: <ul style="list-style-type: none"> White, Alex W. The elements of graphic design: space, unity, page architecture, and type. Sky horse Publishing, Inc., 2011. Edwards, Betty; New Drawing on the Right Side of the Brain, Publisher: Tarcher; 2002 Dalley Terence ed.; The complete guide to illustration & design, Phaidon, Oxford, 1980 T. C. Wang; Pencil Sketching, John Wiley & Sons,1997 Pogany, Willy ; The Art of Drawing, Publisher: Madison Books, 1996 R. Kasprin; Design Media – Techniques for water colour, pen and ink, pastel and coloured markers, John Wiley & Sons,1999 Porter, Tom; Design Drawing techniques for architects, graphic designers and artists, Oxford; Architectural Press,1991 Dalley Terence ed.; The complete guide to illustration & design, Phaidon, Oxford, 1980 				

Course Plan			
Module	Contents	Hours	Sem Exam Marks
I	Introduction of basic form generation and form transition in 3D software <ul style="list-style-type: none"> • Migration of forms and Image manipulation • Metamorphosis through form, color and structure • Students should be able to understand three-dimensional forms and its composition through a digital platform. 	12	25%
II	Introduction to UI/UX <ul style="list-style-type: none"> • Various theories and phase related to Interface design • Students should be able to Design, Develop and test an interface prototype 	9	25%
FIRST INTERNAL EXAM			
III	Parametric form generations. <ul style="list-style-type: none"> • Study of influence of parametric design interventions in 3D software • Students should be able to produce design that can be manufactured directly (Design with affordances) 	9	25%
IV	Expression and imagery: <ul style="list-style-type: none"> • Representing concepts - Sketching for ideation • Formulation and representation of concept drawings from idea to its consummation. • Students should be able to represent their unique design with its photorealistic views and be able to create detailed technical drawings 	12	25%
SECOND INTERNAL EXAM			
END SEMESTER EXAM			