

PDPM
INDIAN INSTITUTE OF INFORMATION TECHNOLOGY,
DESIGN AND MANUFACTURING JABALPUR

34th MEETING of the Senate
To be held on May 09, 2015 at 10:30 am in the Conference Hall of the Institute

AGENDA NOTES
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Senate/34/01	Opening remarks by the Chairperson, Senate
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Opening remarks will be made by the Chairperson, Senate during the meeting.

Senate/34/02	Confirmation of the minutes of 33rd meeting of the Senate held on January 27, 2015
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Minutes of 33rd Meeting of the Senate held on January 27, 2015, were circulated to the members. No comments have been received on the minutes. Senate is requested to approve the minutes.

Senate/34/03	Action taken report on the decision of the Senate vide 33rd Meeting of the Senate held on January 27, 2015
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Action taken report on the 33rd Meeting of the Senate is enclosed as Annexure I.

Senate/34/04	Nomination of Senate members to the Board of Governors
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With the enactment of the IIIT Act 2014, the Senate has been reconstituted under clause 16(I) of the IIIT ACT 2014. As per clause No. 13(2)(h) of the IIIT Act 2014, The Senate is requested to nominate two professors of the Institute to the Board as members.

Senate/34/05	Co-opting of members for their specialized knowledge in the Senate
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As per clause No. 16(1)(g) of the IIIT Act 2014, the Senate is requested to co-opt three persons who are not members of teaching staff for their specialized knowledge.

Senate/34/06	Reconstitution of Senate Committees after the enactment of the IIIT Act 2014
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The Senate is requested to consider the proposal of reconstitution of the Senate Committees after the enactment of the IIIT Act 2014.

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Senate/34/07	Recommendation of names for the Chief Guest of the 7-th Convocation, to the Board of Governors
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7th Convocation of the Institute is proposed to be held in the last week of the July 2015. The Senate is requested to propose names for the Chief Guest of the Convocation to the Board of Governors.

Senate/34/08 (Confidential)	New format for the degree
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With the enactment of the IIT Act 2014, the degree format needs some changes. . In view of the same, new format for the degree will be placed before the members during the meeting for its consideration.

Senate/34/09	On limit of Masters and Ph.D. students under the supervision of a faculty
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Due to increased number of seats in the Masters and PhD programmes, difficulty has been felt in allocating supervisors to students in some cases. In view of the above it is proposed that Discipline Post Graduate Committee (DPGC) be authorized to make its recommendation for assigning a thesis guide to a student/a student to faculty member by taking his /her consent. The Dean Academic is proposed to forward cases for allotment of more number of students under a supervisor to the Chairperson, Senate. While making its recommendation, the DPGC may take into consideration all aspects related to students such as specialization, availability of the faculty, number of students working under a faculty, etc.

In addition, at present the thesis credit in M.Des. programme is 16-20 credits as compared to 32-40 in the case of M.Tech. programmes. Hence, it is proposed that the load towards supervising M.Des. programme be counted as half (0.5) in place of one (as is being counted presently).

Senate/34/10	Procedure for Approval of New/Modified Course
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Following procedure is proposed for the approval of a course proposal.

- a. Faculty submits the course contents along with the information such as learning objectives, number of credits, text books, reference, level of the course, etc (as given in the template) to the head of the concerned discipline. In case of interdisciplinary programme it will be submitted to the Convener of the programme.
- b. Head/Convener by himself or by seeking opinion of the other faculty members of the discipline will give its recommendation on the proposal.
- c. The proposal will be forwarded by the Discipline head to the convener, PGCS.
- d. The Convener PGCS by himself/herself or by seeking the suggestions from other members of the PGCS will examine the learning objective and other requirements such as number of credits of the course in line with the Institute's curricula. He/she will then forward the same to the Dean with his/her recommendation to the Dean.
- e. The Dean Academic will forward the course proposal to the Chairperson Senate with his comments /recommendation for approval. He/she may also return the course proposal to the respective head of the discipline if some information is required /discrepancy is observed.
- f. Chairperson Senate will consider the proposal for approval or for placing it before the Senate.

Senate/34/11	Proposal for B.Des. Programme
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A proposal for Bachelor of Design programme received from the Design discipline is placed for the consideration of the Senate as Annexure-II. The proposal has also been sent to experts in the domain for their views. Comments/suggestions of the experts will be presented during the meeting.

The Senate is requested to consider the proposal for approval.

Senate/34/12	Proposal for starting IIITDMJ Industry Affiliate Programme (IIAP)
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In order to encourage interaction with industry and to involve industries in the academic programme, it is proposed to start IIITDMJ Industry Affiliate Programme (IIAP). Proposal for the same is attached as Annexure III.

The Senate is requested to consider the proposal.

Senate/34/13

Inclusion of Environmental Studies Course in Curriculum

Following modification in the curriculum is proposed to include Environmental Study as a course in the curriculum:

- i) The course will be of zero credit course
- ii) The student need to successfully complete the course for the award of degree
- iii) A student can opt for the course in VI or VIII semester. For the purpose two electives Open Elective (MS stream and HS Stream) and Environment Study courses can be selected by a student.
- iv) A student can opt for one of the three courses in VI Semester and two courses in eight semester.

Senate/34/14

Establishment of S.P. Yadav Merit cum Means Scholarship

Mr. S.P. Yadav retired as Sr. GM, GCF Jabalpur has proposed to initiate a scholarship for three needy students @1000/- per month (merit cum means). For the purpose he is depositing a sum in the Allahabad bank and has proposed that the interest received may be utilized for the purpose.

The Senate is requested to consider the proposal of establishment of S.P. Yadav Merit cum Means Scholarship.

Senate/34/15

Modifications in the Senate Manuals

Modification of different Senate Manuals is in progress but it requires some more time to complete the process. For the time being following modifications are proposed in the manuals for smooth running of the academic programme:

1. All committees such as PGCS, UGCS, Placement Cell, LCS, SAC should have members nominated by Discipline through respective Heads after having discussions in the discipline to ensure better coordination among respective offices and Disciplines. The discipline members in PGCS/UGCS may be conveners of respective DPGC/DUGC or their nominees.
2. Leave applications of UG/PG students should be recommended through respective Heads of the Disciplines.
3. The assistantship applications of PG students of each discipline (except students admitted in programmes offered by Central facilities) should go to Accounts Office directly through discipline to cut down the delay. The

- processing would be done at the Discipline level.
4. Change of supervisors and addition of Co-Supervisor of PG Students should be recommended by DPGC conveners/ Heads on the request of the student and on the advice of present / new supervisor(s), PGCS and DPGC. It would be approved by Dean Academic.
 5. Examiner panels of Masters' thesis defence boards are to be proposed by thesis supervisor, and on the recommendation of DPGC convener (Head), would be approved by Dean (Academic). The PhD thesis defence board would be approved by the Chairperson Senate.
 6. Approval of reports of Comprehensive examination, Open examination, Masters' Thesis Defence may be done at the level of Dean (Academic) on the recommendation of respective DPGC/RPC/Thesis defense board.

The Senate is requested to approve the proposed modifications.

Senate/34/16	Appeal of Mr. Ashish Shukla and Mr. Vivek Kumar Singh (2011177)
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Mr. Ashish Shukla has requested the Director for revaluation of Grades in Semester II 2014-15. His appeal is enclosed as Annexure IV. Mr. Vivek Kumar Singh (2011177) has requested to reconsider his appeal against the drop of his course due to poor attendance. Same is enclosed as Annexure V.

The Senate is requested to consider their appeals.

Senate/34/17	Ratification of approvals given by the Chairperson, Senate
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From time to time, approvals are accorded by the Chairperson Senate for smooth running of the academics. A list of approvals will be circulated separately.

Senate is requested to ratify the approvals accorded by the Chairperson.

Senate/34/18	Any other item with the permission of the Chair
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Submitted for approval be.

Ashish Shukla

Chairperson Senate

Annexure I

Action taken report on the decision of the Senate vide SENATE/2014-15/33rd Meeting dated January 28, 2015.

S.No.	Agenda Item	Action taken
Senate/33/04	Forwarding of modified manuals to the Board of Governors for approval	In progress
Senate/33/05	Nomination of Senate members to the Board of Governors	Implemented
Senate/33/06	LCS recommendation on library fine etc.	Report awaited
Senate/32/07.1	Co-opting of members for their specialized knowledge in the Senate	With held due to enactment of IIIT Act 2014
Senate/32/07.2	Appeals of students whose academic programme is dropped/ terminated due to deficient academic performance	Implemented
Senate/32/07.3	Proposal for M.Tech. Programme in ECE (Micro-Nano Electronics)	Proposal awaited
Senate/32/07.4	Proposal for M.Tech. Programme in Biomedical Engineering	Withheld due to decision of board not to open any new programme
Senate/32/07.4	Conversion of programme from regular to externally registered category for Masters 'students	Notified

IIITDMJ Industry Affiliate Programme (IIAP)

The main objective of the IIITDMJ Industry Affiliates Program (IIAP) is to develop dialogue between the industry and institution by providing mutual support in research, development, and education. It is aim to provide an avenue for industry to contribute towards research and teaching. The task can be accomplished by providing appropriate mechanism for technical exchange and collaboration. Affiliates have priority in getting student resumes and student and faculty publications, seminars, workshops and short courses. Special program can be organized for the need of an affiliated industry.

Aim of the IIAP

- To develop dialog between industry and institution
- To provide an opportunity to industry to get students trained to their need
- To provide an opportunity to industry to contribute towards research and development
- To provide an opportunity to faculty and students to interact with the industry
- To provide an opportunity to industry to interact with the faculty and students

Areas for Affiliation

It is proposed to provide an opportunity to industry to collaborate with faculty, researchers and students of IIITDM in the areas of:

1. Computer Science and Engineering
2. Electronics and Communication Engineering
3. Mechanical Engineering
4. Mechatronics and Robotics
5. Design
6. Physics
7. Mathematics
8. Humanities

Each discipline will identify the areas of interest of industries where affiliate programme may be run.

Structure of the IIAP

- The functioning of IIAP will be overseen by a committee (IIAP Board), consisting of experts in relevant field.
- Full Member will be eligible to nominate one expert in the IIAP Board.
- The IIAP Board will be able to suggest areas of research for Masters and Doctoral research.

- The IIAP Board will be able to suggest areas of research for Masters and Doctoral research.
- The IIAP Board will be able to suggest areas for organization of seminars, workshops and short term courses according to need of the industry
- An Executive Committee, appointed by the IIAP Board, will make recommendations on fees, benefits, areas of research, etc. to IIAP.

Benefits to Industry

The IIAP offers many benefits to industry partners such as:

- A platform for effective collaboration between IIITDMJ and industry.
- Use of facilities set up at IIITDM Jabalpur at a reduced rate.
- Access to continuing education programmes for the industry under IIAP at reduced rate
- Access to annual “Industrial Affiliate Day” (upto 5 persons)
- Hand-holding and knowledge dissemination for companies.
- Free use of IIITDM Jabalpur Library for reference as a “Full Member”.
- Access to its Masters’ and Doctoral theses in related areas.
- Ability to sponsor post-graduate students’ scholarships and project (at cost).
- Prominent acknowledgement as an “IIITDMJ Affiliate” on IIITDM website
- Ability to sponsor the projects of master’s and doctoral students.
- Special short term training programme may be run by the institute according to the need of an industry. (at cost)
- Training of newly recruits of the industry for special knowledge. (at cost)
- Introduction of new courses for the need of an industry (at cost, need approval from the Senate)

Benefits to the IIITDMJ:

The IIAP offers benefits to IIITDMJ such as:

- Understanding of the requirements of the industry and according curriculum and course be redesigned to improve employability of the students
- Faculty and Students become acquainted with industrial needs.
- Students will get internship opportunities in the industry to add a complementary element to their education.
- The result of the interaction is greater excellence in both the research and teaching missions of the institution.
- Faculty will get better research and development, consultancy opportunities

Membership

- Membership is by a company, an organization, or a trade association names here as industry. In the initial phase IIAP will have associate members only but if need be a two-tiered structure may be developed, with members in two categories.
 1. Full Member
 2. Associate Member
- To become an “Industry Affiliate” of IIITDMJ, an industry will have to pay an annual membership fee and sign an MoU with IIITDM Jabalpur:

Organization Size	Full Member	Associate Member
individual entrepreneurs or startups with 10 or few employees	Rs. 25,000/-	Rs. 10,000/-
Organization with less than 100 employees	Rs. 1,25,000/-	Rs. 50,000/-
Large Organizations	Rs. 5,00,000/-	Rs. 2,00,000/-

IIAP Board

- IIAP board will be constituted by the Director of the Institution. Initially structure for the board will be:
- One Professor as Chairman of the board
- Three faculty members
- Two industry members co-opted by the board
- Later on as the programme expands it can have sub-committees for each discipline.

Appeal Ashish Kumar Shukla

Respected sir,

I am Ashish Kumar Shukla, currently in **"fourth year of my M.Tech"**

I wrote a letter to you (Dated: 09/03/2015) and It is your greatness that you took up my matter immediately with the Dean Academics (as informed by Deputy Registrar Academics).

Sir, in the previous letter, I tried to explain you that **"one of my semester (i.e. semester from January-2014 to May-2014)"** has to be re-evaluated as per the decision given by PGCS, which was ignored by college senate.

In the semester (From January-2014 to May-2014), I was working on the topic "Friction stir welding" and not on the topic "Assembly line balancing" but my performance was evaluated on the topic "Assembly line balancing" due to which I was given 4Xs (XXXX) towards my thesis work and F grade for my graduate seminar presentation as a result of that my CPI came down to 7.6 from 8.1. Also, I was supposed to get Rs. 24000/- stipend (Total for three months) but I got only 12000/- (Half amount) due to my result of that semester (4Xs and F grade) as said by dean academics.

Sir, PGCS has given its decision twice to re-evaluate my performance on the topic "Friction stir welding" for the above mentioned semester but the decision of PGCS was not accepted by college senate. Please allow the re-evaluation of my above mentioned semester so that my result improves and I complete my M.Tech in the current semester (January-2015 to May-2015).



how many more semesters I have to stay in this college.

As the time is passing on my depression level is also going up because the students who took admission two years later than me, they are also on the verge of completion of their M.Tech programme.

“Sir, please allow the re-evaluation of my above mentioned semester (i.e. semester from January-2014 to May-2014).”

If you give permission for an appointment, I can come to IITM Gwalior for meeting you.

With Kind Regards
Ashish Kumar Shukla
M.Tech (4th Year)



PDPM

Indian Institute of Information Technology,
Design and Manufacturing Jabalpur

Bachelor of Design (BDes) Course Structure: 2015

The overview and the course contents for the Undergraduate Program in Design of PDPM IIITDM Jabalpur would include:

Overview:

Semester I students are given a broad overview of what design actually is. This is further strengthened by hands on course like design drawing. As design needs to be empowered by technology (the back end of any system), an overview of technological principles are also given. Core of any design is Ergonomics, this semester gives the students an introduction to this subject and hence, they try to connect the relationship between design, technology, and ergonomics and learn some basic design skills. A designer needs to articulate to the world his/her thoughts. Thus, the course in communication equips the students with different communication skills required in the real world when they emerge as full-fledged designers.

Semester II exposes the students to the second level of design fundamentals irrespective of the direction they are going to take in future. This is further reinforced by the course "Design Thinking" which helps in shaping their thought process in this profession. This semester for the first time exposes the students to the two main domain of design: Industrial and Communication Design as compulsory courses, since a designer needs to know the basics of both. Students takes up the first project in this semester in which he/she learns to inculcate all his/her learnings so far from Semester I and II. Thus, the student is exposed to the first hands-on working of design in this semester.

Semester III brings in the systems approach in design, without which any design education is incomplete. Courses on form arts and aesthetics encourage the students to explore further into the different facets of design, thus, giving him/her another perspective of design. Representation of ideas is one of the major strength of a designer for the users. The student takes up the second project in this semester where he/she learns to inculcate all his/her learnings so far from Semester III.

Semester IV exposes the students to advanced courses in the two major domains of design namely Industrial and Communication Design. The young design mind now would learn to differentiate these two distinct domains of design and as well appreciate the ways they are intricately associated. This would be further enhanced by the course on design research which is different from any other researches. The semester has another course on packaging and branding which exposes the students on how to position their design in the market and how one design scores over the other.

Semester V sensitises the students to the basics of design management helpful in setting up one's own studio and to contribute to the design studio where they will be employed. Other course like service and sustainable design exposes them to the other facets of design, while Engineering Design exposes them to the engineering fundamentals in design. This semester starts with electives in ergonomics namely applied and visual ergonomics where students further understand the user centric approach in industrial and visual design in different sectors.

Semester VI exposes the students for the first time to interface design both software and hardware. Design forecasting and trend exposes them how to study market demand for the future. Technical writing teaches the students to write proposals, executive summaries and thus express themselves as designers. Technical writing also helps the students design their portfolios which is very critical in the design profession. This semester has two electives in industrial and communication design domain depending on the student's interest area by now.

Semester VII The students in this semester would take up a technically complex project or can do their design thesis in-house but would be advisable to go to the the industry for doing their thesis so that they get a feel of the real world of design.

Semester VIII Students take up Design Thesis 2(extension of the thesis work started in the previous semester) or takes up four electives of his choice.

Semester I

1. **Design Fundamentals-1:** Part A - Introduction to design – Nature of design, Aesthetic sense, Role of perception, Gestalt principle, Inspiration, concepts, problem solving, integrity, originality, craftsmanship etc.

Part B - An introduction to basic elements of Design:

Point, Line – Line as Expression, Quality of lines, Symbolic Lines, Line as form etc.

Space – Pictorial space, implied space, space illusion, actual space etc.

Shape & Form – Natural shapes, geometric shapes, abstract shapes, non-representational shapes; Natural forms, geometric forms, abstract forms, non-objective forms.

Color – color theory, color properties, color relationships, color harmony, color interaction.

Texture - tactile texture, visual texture, texture and pattern, constructed textures, symbolic textures. (2-0-2-4)

2. **Design drawing:** including a combination of engineering and artistic drawing skills. Free hand drawing from natural or manmade environment develops the skill of coordination of mind and hand during the process of representation. Free hand drawing of Dimetric (15° - 15°), Isometric (30° - 30°), Trimetric (45° - 15°) and one point, Two point and Three point perspective in real location.(2-0-3-4)



3. **Introduction to Ergonomics in design:** genesis, components, application, relation to design, ergonomics of product, space and communication. Sector specific application of ergonomics like craft, agriculture, transportation etc.(2-0-2-4)
4. **Engineering literacy:** Brief overview of engineering and science principles. The objective of this course is to introduce the functionality from design perspective and proof-of-concept view point of some common, successful and matured engineering products e.g. Incandescent Bulbs / CFLs / LEDs, advance electronic products like smart phones, vehicles/automotive products, Laptops/ Computers and peripherals.(0-0-3-2).
5. **Communication:** English speaking and writing, presentation skills, facing and interview, selling an idea etc. (2-0-2-4).
6. **Fundamentals of Computing:**
Concept of Programming Languages, A quick overview of OS-Windows/Linux, Writing, compiling and running the program on Linux/Windows, The Compiler, Program Builder, Debugging: types of errors and debugging techniques, Problem solving aspects, Introduction to Algorithms and flow charts, Data structures in C, Variables, Variables names, I/O, The standard Input/Output file, Formatted inputs/Output, Expressions and Operators, connectors, control statements, Functions: Scope of Function variable, Modifying function arguments, Pointers, Array, String, Structures and Unions, file handling, File redirection, file pointers, advantages of using multi files, organization of data in each file, compiling multi-file programs, The Pre-processor, Library Functions and Low level programming.
(2-0-3-4)
7. **Software skills I:** AutoCAD, Sketch Book Pro, Key Shot.(2-0-3-2)

Total=24 Credits

Semester II

1. **Design Fundamentals 2:** materials, hardware and software etc. Understanding of characteristics of different elements & their inter-relationship with various elements and to the composition. Balance – Structural balance and visual balance, symmetry, Asymmetry, Radial Balance, Golden proportion, Rules of composition, Scale & Proportion - Unity & Variety – Harmony, Rhythm, Perspective, Emphasis, Orientation, Repetition. (2-0-2-4).
2. **Design thinking:** includes design history, how design thinking is different from technical thinking, What is Design Thinking, Styles of Design Thinking, Goal Seeking & Setting Research, Understanding Context, Visual Mapping & Resource Mapping, Categories and Trends Compositions and Judgements, Opportunity Mapping and Scenario Visualisation, Communications and



Reflection, Presentations with Business Models. (2-0-2-4).

3. **Industrial Design 1**(compulsory): simple products, product color and aesthetics, product form, white goods, medical products, complex products. Simple products, Design from consumers point of view, product language, aesthetic functions, product semantic, sign functions, symbol functions, product analysis, product form. (2-0-2-4)
4. **Communication Design 1**(compulsory): communication basics, semiotics, semantics, typography and: Introduction to Communication Design: Effective Communication, Human Perception, Aesthetics, Emotion and Subjectivity, Visual Perception and Cognition: Human Eye, Optical Illusion, Color Perception, Depth Perception, Motion Perception.
Visual Language: Semiotics - Semantics, Syntactic, Pragmatics, Sign - Design of Icon, Index, Symbol and Logo.
Visual Hierarchy: Visual Focal, Visual Order, Eye Movement, Visual Flow and Continuity, Visual Composition.
Information Design: Information Chunking, Grids, Visual Abstraction of Quantitative information, Application of Gestalt Laws of grouping, Information Graphics. (2-0-2-4)
5. **Software Skills II**: Rhino, Solid Works. (2-0-2-2)
6. **Engineering Graphics**: Lines, Lettering, Sketching, Principle of Dimensioning, Orthographic Projection: Projection of Points, Lines, Planes, Auxiliary Views, Projection of Solids, Sections of Solids, Intersections of solids and development of lateral surfaces of simple solids, Isometric Projections, Oblique and Perspective Projection. (2-0-3-4)
7. **Design project 1**: 3 Credits:
Sample project: Take a simple hand held product of everyday use like electric kettle, electric iron, and toaster. Analyze its design in detail from different design perspective including its visual design aspects. Modify it and come up with a new modified product. You need to incorporate all the aspects of design including engineering basics, ergonomics, communication design that you have learnt so far.

Total= 25 Credits

Semester III:

1. **Systems thinking in design**: Introduction to systems, types of systems, relevance of systems thinking to design, solving design problems through systems thinking.(2-0-2-4)
2. **Representation techniques**: Different ways in design ideas can be represented for better visualization. Predominantly a skill based course. To develop an analytical attitude and ability to deal with complexity of



imagination and visualization of object from any angle, understand and represent the structure of forms in detail. (2-0-2-4)

3. **Design arts and aesthetics:** Origin of aesthetic and generate the value system, major contribution of aesthetic in art and design, social and intellectual development through art, development of style. Design history of Bauhaus, Ulm school, Scandinavian design, Design and Art in post-modernism period, Holistic contribution of Indian art and design.(2-0-2-4).

4. **Studies in form:** Simple geometric form, complex forms, nature and form, human figure, space and form, color and form etc. To appreciate and articulate the language of form, to sensitize students towards manipulation of forms in 2D and 3D also Form integration and transition, experiment with different aspect of Forms.
The course would help students to understand nature and structure of Form, basic techniques of Form manipulation and their applications to generate Forms and Shapes with desirable objects. (2-0-2-4)

5. **Design project 2: 5 credits**
Sample project: Take a bigger product which operates in a space like washing machine, microwave oven etc. Analyze the product from product and visual design perspective and come up with a redesigned product. You need to work upon the visual elements of the product as well.

Total Credits=21

Semester IV:

1. **Industrial Design 2 (Compulsory):** Complex products, design as a strategic tool, design and innovation, design process, user study, need identification, Sigma analysis of user and product activity, usability, material analysis, visual analysis, factor analysis, physiology analysis, technical analysis, environmental analysis, economic analysis, ideation, analogies, selection of an idea, detail design, design for culture, design for manufacture, design for assembly, product rendering, mock-up and prototype, final manufacture. (2-0-2-4).

2. **Communication Design 2 (Compulsory):**
Introduction to Print Media: Forms of Printing, History and Evolution, Interrelation of Print and Digital Technologies, Applications.
Introduction to Typography: History and Evolution, Classification, Anatomy, Legibility, Readability, Wordmark Design, Type Design Principles, Techniques and Applications.
Introduction to Photography: History and Evolution, Camera, Principles, Techniques and Applications.



Introduction to Moving pictures: History and Evolution of Cinema, Video and Animation; Principles, Techniques and Applications.

Visual Identity Design: Introduction to Identity Design, Branding and Rebranding; Applications in - Stationary Design, Template Design, Souvenir Design, Signage Design and Web Design.

Introduction to Human Computer Interface: Graphic User Interface, Characteristics, Principles and Applications. (2-0-2-4).

3. **Design Research including user study:** Qualitative and qualitative research methodology, questionnaire design, direct observation and activity analysis, photography as a tool in design research etc.(2-0-2-4)
4. **Packaging design and branding:** Global Packaging Branding and Promotion, Digital Image Manipulation Applications, Packaging Research and conceptualisation, Packaging Design Approaches and Techniques, Packaging Design Realisation, Packaging Form and Elements.(2-0-2-4)
5. **Design Project 3: 5 Credits**
Sample project: Students for the first time bifurcate into their area of interest in the areas of product and communication design.
 - i. *Product Design:* Select a moving space like driver cabin of a locomotive, back hoe loader, tractor etc. Analyze the space and redesign the same from a design perspective.
 - ii. *Communication Design:* Select a pesticide packaging. Study the context in which it is used and redesign it from a design perspective for the local context.

Total Credits=21

SUMMER SEMESTER

Internship (optional): Either with the industry or academia.

Semester V:

1. **Design Management:** skills, knowledge and learning style evaluation, personal goal setting and professional development planning, insight into the context that businesses and organisations operate in, how they view and use design, and their relationship with designers, Examine the roles of design and innovation in achieving organisational objectives. To bring together the languages of design and business, it considers organisational objectives, how design and innovation deliver value and return on investment is evaluated. (3-0-1-4).

2. **Service Design:** provides insights into the relationships between people, technology (in the broadest sense of the word - paper is a technology) and design. Using cultural and design theories as frameworks it explores through hands-on design projects and case studies the ways in which service design practices creatively engage with new trends in society, the ways in which technologies change society, and the ways in which people (users) shape design practices. It will challenge you to reconsider designers and users as the ultimate authors of all new designs, technologies or services.(2-0-2-4)
3. **Sustainable Design:** Sustainable design principles. Physical, mental, spiritual, cultural, social, ethical and economic issues in designing for sustainability. Ecological footprints, ecosystem impact. Waste, reuse and recycling, benign emissions, green design, integrated DFE/Eco design, design for sustainability, eco innovation, system-wide product/service strategies, sustainable consumption, health, modelling and mapping.(2-0-2-4).
4. **Engineering Design:**
The course is meant to nurture creativity, innovation and ideas. It is meant to train the students to properly design the product so that the product has the proper finishing and packaging, ready to be launched into the market. The focus of this course is on artefact design (and may be for a few cases on technology design).The course would introduce Engineering Design, its importance, Design Philosophy, Design Paradigm, Design Process, Good Design, Design phases; Need Identification and Problem Definition; Concept Design; Embodiment Design; Materials Selection in design and Selection of Manufacturing Processes; Building and Testing Prototypes; Human Factors Design; and Detail Design. The course would include doing the market survey, identifying need Assessment, motivation, and define objective of the design. This would be followed by concept generation and evaluation, embodiment design and detailed designing of the product with the end output a "functional" model. The end output must be in resonance with the customer requirement that has to be ensured. The course also requires preparation of a product catalogue /brochure presenting the highlights of the product generated. (2-0-4-5)
5. **Applied Ergonomics (elective):** Application of ergonomic principles in different domain product, space and process, ergonomics in transportation design, medical equipment design, toy and game design. Ergonomic principles in developing pleasurable products etc.(2-0-2-4)

OR

Visual Ergonomics (elective): Visual ergonomic principles, ergonomics of typography design, color ergonomics, ergonomics in way finding and packaging, ergonomics in cartography etc.



6. Design project: 4: 4 Credits

Sample project:

Product Design: Design a blood glucose monitor for the elderly staying alone at home and who is illiterate.

Communication Design: Design an interactive game for rural women which would engage them and raise awareness about child health in India.

Total Credits = 25

Semester VI:

- 1. Interface Design:** in the areas of product, space and communication design. Interface design basics, interface design of product space and communication and the difference between the three, different types of interface, making the different tangible and intangible interfaces user friendly, color, form, texture and interface design etc.(2-0-2-4).
- 2. Design forecasting and trend research:** competitor product analysis, future trends, Patent Search / Review of IP, International developments study and, new materials and processes review.(2-0-2-4)
- 3. Industrial Design Elective 1:** (2-0-2-4)

Or

Communication Design elective 1:

- 4. Design project 5(Fabrication Project): 7 Credit**

This is for the first time student start taking projects in their area of interest; product or communication design. This project starts with a small course on technical writing and portfolio design. This is an extension of the Engineering Design course where the students come up with a tangible, fully functional prototype of the concept they have come up with. The students learn to make their own prototype using different materials and tools.

Technical writing and portfolio design: report and proposal, thesis writing, referencing, writing for conference and journals, issues of plagiarism in publishing, portfolio building etc. EMF (2).

Sample Project: Students will have to select two "futuristic" design projects in the area of product and communication design.

Product Design: Design a futuristic product for the elderly for the year 2030 which would help them to navigate from one place to another with ease and comfort.

Communication Design: Design a mobile phone and its interface for the school going kids of our country in the year 2030. Create a brand identity for the same product for the Indian market.

Total Credits=21

Semester VII:

Design Thesis 1 : Students in this semester would take up a technically complex project. Example designing a coffee vending machine, packaging for life saving drugs etc. The students can do design thesis in-house but it would be advisable for them to go to industry/ design firms to do the thesis.

Total Credits = 16

Semester VIII:

Design Thesis 2:The students would have an option of carrying forward their Design Thesis in Industry for one more semester or to come back to the Institute and do course work in lieu of Design Thesis.

OR

Course Work (Four Electives)

1. Industrial Design Elective 2 (2-0-2-4)
2. Industrial Design Elective 3 (2-0-2-4)
3. Industrial Design Elective 4 (2-0-2-4)
4. Industrial Design Elective 5 (2-0-2-4)

Or

- Communication Design Elective 2
- Communication Design Elective 3
- Communication Design Elective 4
- Communication Design Elective 5

Total Credits= 16

Program Credits = 169



1. The list of Electives may include

- a. IPR issues in Design
- b. Transportation Design
- c. Automobile Design
- d. Space Design
- e. Accessories Design
- f. Graphic Design
- g. Animation Design
- h. Game Design
- i. Design Quality Control
- j. Project Planning and Control

Detail outline of some electives:

1. **Furniture Design:-** 3D software learning; Anthropometry; Ergonomics in Workplace Design; Space composition, Multifunctional space; Analysis of space & furniture; Furniture design technology; Modular furniture; Display and exhibition furniture design; different materials in furniture design, etc., etc.
2. **Game and Toy design:-** Creative thinking, Elements of play, character design, Toy and game theory; Motion graphics; Drawing and sketching techniques; Virtual environments; Child behaviour and psychology; Toy safety legislation.
3. **Digital Modelling for Product Design:** 3D design; Rendering techniques; CAD- CAM; Basic modelling concepts; Introduction to Maya software for rendering etc. etc.
4. **Exhibition design:** - Visual ergonomics, lighting design, spatial design, infographics, interface design; space, graphics, storyboard performance and multimedia.
5. **Lighting design:-** Physiology of Eye; Light and Dark adaptation; luminance; Vision and the Nature of Light; Illuminance; Photometry; Colour vision; Glare; Interior and Exterior Lighting; etc.
6. **Advanced Photography:-** Shooting Vertical vs. Horizontal; Choosing a point of interest; Adjusting your angle of view; Placing subjects off centre; Lines; Backgrounds; Foregrounds; Composition; Light; Positive and negative space; Framing; Colour vs. Black and White Photography; Balance; Texture and Pattern; Symmetry; Perspective; Reflection; Colour in Photography; Monochromatic Variations of One Colour, Using Value; Analogous Colour; Primary Colours; CD or Album Design

7. **Medical aid Design:** - Basic concept of medical instrument; basic sensors and principles; Amplifiers and signal processing; bio potentials and electrodes; chemical biosensors; medical imaging system; therapeutic and prosthetic devices.
8. **Web Design:-** Introduction to the Internet; Introduction to Dreamweaver; Creating a Basic Web Page Web Page Layout Techniques; More Features of Dreamweaver; Typography; Imagery; Dynamic and static websites

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From: pnkondekar@iiitdmj.ac.in
Subject: Fwd: Re: Your Consent for Co-opting your nomination for Academic Senate, IIITDM Jabalpur
Date: Sat, May 9, 2015 12:06 am
To: director@iiitm.ac.in
Cc: registrar@iiitdmj.ac.in

Respected Sir

Pl go through the trailing mail where I have already obtained the consent of Dr S C Bose of CEERI PILANI, for co-optation under the members who are not members of teaching Staff for their specialized knowledge During tomorrows Senate meeting Kindly confirm this co-optation since the communication and consent was already done!

Sincerely

Thanks

Kondekar P N

----- Original Message -----
Subject: Fwd: Re: Your Consent for Co-opting your nomination for Academic Senate, IIITDM Jabalpur
From: "P N Kondekar" <pnkondekar@iiitdmj.ac.in>
Date: Sun, February 1, 2015 5:33 pm
To: "Aparajita Ojha" <director@iiitdmj.ac.in>

Dear Madam

With reference to our discussion and agenda in Senate on 29th Jan 2015, where I proposed the Name of The principle scientist Dr S. C. Bose CEERI Pilani as a Senate Member

Also, Our Institute is listed in The*Special Manpower Development for VLSI Design and Related Software : Phase-III*(SMDP-III) has been sponsored byDeity/MCIT <<http://www.deity.gov.in/>>at CSIR-CEERI, Pilani. Ceeri Pilani and Dr S C Bose will associated with this program. Our Institute Name is listed as Participating Institute with VNIT as Resource Center

<http://idg.ceeri.ernet.in/smdp2.html>
<http://www.smdp2vlsi.gov.in/smdp2vlsi/index.jsp>

Thanks a lot

With regards

Kondekar P N
Head ECE

----- Forwarded Message -----
Subject: Re: Your Consent for Co-opting your nomination for Academic Senate, IIITDM Jabalpur
Date: Thu, 29 Jan 2015 10:20:09 +0530
From: Subash Chandra Bose <bose.ceeri@gmail.com>
To: pnkondekar@iiitdmj.ac.in

Dear Prof. Kondekar

You can propose my name for nomination as a member of Academic Senate of your institute. Your proposal itself is an honour to me.

In case my name is accepted, I expect an official communication from your institute and based on that I will seek permission from my office. This procedure is more of ritual nature.

I am glad to inform you that your Institute Name for DeiYT SMDP (Special manpower Development Program) list, (PDPMIIT(D&M) Jabalpur) is listed and very soon your institute will get related communication from Deity (Department of Electronics and Information Technology, Govt of India). Your institute is associated with VNIT, Nagpur.

regards

SC Bose

On Wed, Jan 28, 2015 at 10:10 PM, <pnkondekar@iiitdmj.ac.in>
<<mailto:pnkondekar@iiitdmj.ac.in>>> wrote:

Dear Dr Bose

With reference to our telephonic discussion, earlier, we wish to propose your nomination as a member of Academic Senate of our Institute IIITDM. We are sure that with your consent, and consequently your Nomination will equip us to obtain valuable guidance in our day to day Academic Matter, Curriculum Design, and other rules and policy matters. If you give us your consent, we will go ahead and discuss with Chairperson Senate/Director of Our Institute

Kindly allow us to propose your name.

I am sure you are aware about institute is Fully Funded by MHRD Govt of India and now the recent IIIT Bill to Declare our Institute as Institute of National importance. Kindly let us know about the SMDP Programme. We feel confident that our Institute is Included in this SMDP Program

Kindly confirm

Thanks a lot

We eagerly waiting for your response

Regards

Kondekar Pravin N
M.Tech (Electronic Design & Technology) IISc
Ph.D (Electrical) with Microelectronics IIT Bombay
Professor & HoD, ECE
Indian Institute of Information Technology Design and Manufacturing
(IIITDM) Jabalpur
Mobile: 09425805445

Dr. S. C. Bose
Scientist, IC Design Group
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01596-244132 (Res)

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