Visvesvaraya Technological University (VTU), Belagavi

Proposed by: Wadiyar Centre for Architecture

Semester 1

Designing Coursework for Analysis and Application in Architecture					
Course Code	MAED101	CIE Marks	100		
Teaching Hours per week	03:09:00	SEE Marks	100		
Total Hours of Pedagogy	12*16=192	Total Marks	200		
Credits	12	Exam Hours	— -		

Course Learning Objectives:

The course aims to

- Enable students to design course work for a analysis and application considering students ability, curriculum demands and context.
- Introduce students to knowledge, skill and attitude and apply them as they design activities for courses.

Brief

Student Learning:

Student should be able to identify the strength and gaps in a given course.

With the help of a curated set of syllabus, students have to analyse the learning outcome, as per the demands of the course. Based on the learning outcome student can engage in designing the exercises that align with the outcomes.

The mentor should engage with the student through active, collaborative, experimental and experiential learning. Learning experiences should be curated such that the student will be able to design exercises based on the learning outcomes of a course:

Students should opt for courses from the tracks provided.

Track 1: Environmental Sciences, Climatology, Landscape Architecture, Building Services.

Track 2: Drawing Courses – Graphics, Building Construction, Working Drawings, Technology/ Computer aided drawings.

Track 3: History of Architecture, Theory of Architecture, Visual Arts

Instructional Strategies:

Teaching strategy should focus on developing reflective and active learning capacities in students.

Studio environment should allow the students to engage in discussions with respect to discourses in architecture education.

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Case Studies: Studio mentor can identify best practices in architecture education and generate discussions on the outcomes and competencies developed in such approaches. Creative Exploration: Journaling, Writing briefs

Experiential Learning: With the help of role plays and engaging in teaching environments students should be encouraged to develop readings of different situations.

Deliverables:

A portfolio including the studies conducted in the semester. The final project can include the design of exercises for courses with respect to learning outcomes and Assessment Strategy

Suggested Learning Resources:

- 1. Architectural Education Through Materiality: Pedagogies of 20th Century Design. Taylor & Francis Ltd. Elke Couchez (Editor), Rajesh Heynickx (Editor); 2021
- 2. Designing Better Architecture Education: Global Realities and Local Reforms. Copal Publishing Group. Manjari Chakraborty; 2014
- 3. Teaching architecture: from idea to work. Our Knowledge Publishing. Abdelhakim Hanafi; 2021
- 4. Elements of Architecture. Taschen. Rem Koolhaas, Irma Boom (Creator); 2018
- 5. The Manual of Section. Princeton Architectural Press. Lewis, Paul, Marc Tsurumaki, and David J. Lewis; 2016
- 6. Louis Kahn: The Importance of a Drawing Hardcover. Lars Muller Publishers. M. Merrill. (Editor); 2021
- 7. Architecture without Architects: A Short History of Non-Pedigreed Architecture. University of New Mexico Press. Bernard Rudofsky; 1987
- 8. Transformative Pedagogy in Architecture and Urbanism. Umbau-Verlag. Ashraf M. Salama; 2009
- 9. Emerging Practices in Architectural Pedagogy: Accommodating an Uncertain Future (Routledge Focus on Design Pedagogy). Taylor & Francis Ltd. Laura Sanderson (Editor) & Sally Stone (Editor); 2021
- 10. Spatial Design Education: New Directions for Pedagogy in Architecture and Beyond. Ashgate. Ashraf M. Salama; 2015
- 11. Exercises in Architecture: Learning to Think as an Architect. Routledge. Simon Unwin; 2012
- 12. Understanding by Design. Association for Supervision and Curriculum Development. Grant Wiggins & Jay McTighe; 2005

Course Outcome:

On completing the course students will be able to:

1. Student will be able to identify and map the strength and gaps in a syllabus with respect to learning outcomes

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2. Student will be able to design exercises based on Learning Objectives of Courses identified and Assessment Strategy

Program Outcome:

- 1. Design course work considering curriculum demands, student abilities and educational contexts.
- 2. Contribute to the development of new knowledge and practices that shape architecture by actively participating in research activities.
- 3. Critique and interpret an architectural curriculum to maximize learning potential.
- 4. Address the changing educational needs of the architectural community and collaborate with academicians around the globe.
- 5. Develop inquisitiveness, reflection, determination and collaborative mentality to address changing educational needs of the architectural community.

	PO1	PO2	PO3	PO4	PO5
CO1	High	Low	High	Medium	Medium
CO2	High	Medium	High	Medium	High

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History and Theory of Architecture Education					
Course Code	MAED102	CIE Marks	50		
Teaching Hours per week	03:00:00	SEE Marks	50		
Total Hours of Pedagogy	03*16 = 48	Total Marks	100		
Credits	03	Duration of Exam	03		

Course Learning Objectives:

The course aims to develop in students

- Awareness of the relation between the changes in society and architecture education.
- Understanding of the interdisciplinary of nature of Architecture.

Note: Assignments for the course should be designed with respect to competency development in Architecture education. It is recommended that the assignments involve the application of theories while the test or exams can evaluate the deeper understanding of the content itself.

Module 1

Timeline of development of Architecture Pedagogy:

Evolving notions of the Architect's role in society. Identify the different educational epochs and their contribution to society. Guilds- Masters Ateliers, Learning through apprenticeship, inheriting tradition. Renaissance to French Academic Tradition

Module 2

Role of an Architect and Industrial Revolution:

Architectural Education during the Industrial Era: Discuss the contributions of Gottfried Semper, Viollet-le-Duc to understand how architecture made room for the language of industrial materials. Perspectives on aging and repair.

Early Modernists and the Romantic Period in Architecture John Ruskin, William Morris.

Module 3

Interdisciplinarity and Architecture Education:

Influence of Artistic Schools on Architectural Education/ Practice.

The legacy of Bauhaus School on Architectural education during war and post war period. Influence of Post War and Paradigm shift in the pedagogy of architecture. Events as agencies of teaching.

Module 4

Colonisation, Patronage and Pedagogy of Architecture:

Study of political strategies defining the role of an architect during the colonial era with suitable cases from Asia, Africa and South America.

Discuss the influence of political and cultural patronage on Architecture education.

Differentiate between the European Model and American Model.

Key Enquiry: Role of Patronage in Architecture Education

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Module 5

Critical Regionalism and Vernacular Architecture:

Critical Regionalism in the Post War Period and Architectural Education: Ideas of regional and Vernacular in architecture. Cultural influences on Tacit Knowledge. Examining the role of cultural influences as enhancers or erasures.

Technology and Architecture Education.

Relation between industry and education. Computer Application and development of Architectural Practice. Role of AI and future developments in structuring architectural education.

Suggested Learning Resources:

Books:

- 1. Jarzombek, Mark M. Architecture of First Societies: A Global Perspective. Wiley, 2012.
- 2. Ching, Francis D.K., Mark M. Jarzombek, and Vikramaditya Prakash. A Global History of Architecture. John Wiley & Sons, 2011.
- 3. Frampton, Kenneth. Modern Architecture A Critical History. Thames & Hudson, 2007.
- 4. Palladio, Andrea. The Four Books on Architecture. MIT Press, 1997.
- 5. Couchez, Elke, and Rajesh Heynickx (eds.). Architectural Education Through Materiality: Pedagogies of 20th Century Design. Routledge, 2022.
- 6. Swenarton, Mark. "The Role of History in Architectural Education." Journal of Architectural Education, vol. 40, no. 3, 1987, pp. 3-12.
- 7. Emerging Practices in Architectural Pedagogy: Accommodating an Uncertain Future (Routledge Focus on Design Pedagogy). Taylor & Francis Ltd. Laura Sanderson (Editor) & Sally Stone (Editor); 2021

Online Resources:

ArchitectureCourses.org. "Architecture Complete History." ArchitectureCourses.org Yale Architecture. "Topics in the History of Architecture Education." Yale Architecture JSTOR. "The Role of History in Architectural Education." JSTOR

Course Outcome[CO1]:

On completing the course student will be able to:

- 1. Demonstrate the influence of multidisciplinary approaches in interpreting a curriculum document.
- 2. Devise strategies to include multiple narratives in classroom learning.
- 3. Articulate ways to incorporate changes in technology to the field of architecture education.

Program Outcome [PO]:

On completion of the program the student will be able to:

1. Design course work considering curriculum demands, student abilities and educational contexts.

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- 2. Contribute to the development of new knowledge and practices that shape architecture by actively participating in research activities.
- 3. Critique and interpret an architectural curriculum to maximize learning potential.
- 4. Address the changing educational needs of the architectural community and collaborate with academicians around the globe.
- 5. Develop inquisitiveness, reflection, determination and collaborative mentality to address changing educational needs of the architectural community.

	PO1	PO2	PO3	PO4	PO5
CO1	High	High	High	High	High
CO2	Medium	High	High	High	High
CO3	High	High	High	High	High

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Pedagogical Theory						
Course Code	MAED103	CIE Marks	50			
Teaching Hours	02:01:00	SEE Marks	50			
Total Hours of Pedagogy	03*16 = 48	Total Marks	100			
Credits	03	Exam Hours	03			

Course Learning Objectives:

The course aims to

- Enable student to situate themselves in the practice of pedagogical enquiries.
- Develop a reflective nature in the students to aid them in becoming better pedagogues.

Note: Assignments for each module should be designed with respect to competency development in Architecture education. It is recommended that the assignments involve the application of theories while the test or exams can evaluate the deeper understanding of the content itself.

Module 1

What are Learning Models and why is it important?

Introduction to Teacher Centric Education and Student Centric Education:

Behaviourism and Liberationism. Architecture and discourses on competency development in students. Introduction to the works of Ivan Pavlov, John B Watson, B F Skinner.

Blooms Taxonomy as framework for learning objectives, Kolb's Learning Model, Herrmann Brain Dominance Instrument.

Module 2

Introduction to Teacher Centric and Student Centric Education: Constructivism and Cognitivism. Architecture and Discourses on competency development in students. Introduction to the works of Jean Piaget, Jerome Bruner, GA Miller, Lev Vygotstsky, Ernst von Glasersfeld.

VARK Model, Honey Mumford Model, Felder-Silverman Learning Style Model, Gregorc's Mind Styles

Module 3

Connectivism and Generative AI in Architecture Pedagogy:

Addressing the changing landscape of knowledge production by engaging with technology. Introduction to various technological tools. Theories of George Siemens, Stephen Downes.

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Explorations with the help of technological tools.

Module 4

Social Learning and Socio Cultural Models: Bandura's Social Learning Theory and Collaborative Learning Environment.

Humanistic and Experiential Model: Works of Abraham Maslow and Carl Rogers.

Module 5

Expectancy Value Theory, Self Determination Theory, Backward Design Merrill's principles of instruction. Universal Design for Learning and Inclusive Models.

Suggested Learning Resources:

- 1. Driscoll, M. P. (2020). Psychology of learning for instruction (4th ed.). Pearson.
- 2. Schunk, D. H. (2023). Learning theories: An educational perspective (8th ed.). Pearson.
- 3. Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). How people learn: Brain, mind, experience, and school (Expanded ed.). National Academy Press.
- 4. Reigeluth, C. M., & Carr-Chellman, A. A. (Eds.). (2009). Instructional-design theories and models: Building a common knowledge base (Vol. III). Routledge.
- 5. Ormrod, J. E. (2023). Human learning (9th ed.). Pearson.

Course Outcome [CO]:

On completing the course student will be able to:

- 1. Break down the elements of course design.
- 2. Critically evaluate teaching and learning Models
- 3. Demonstrate the relation between aptitude of the student and teaching and learning models.

Program Outcome [PO]:

- 1. Design course work considering curriculum demands, student abilities and educational contexts.
- 2. Contribute to the development of new knowledge and practices that shape architecture by actively participating in research activities.
- 3. Critique and interpret an architectural curriculum to maximize learning potential.

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- 4. Address the changing educational needs of the architectural community and collaborate with academicians around the globe.
- 5. Develop inquisitiveness, reflection, determination and collaborative mentality to address changing educational needs of the architectural community.

	PO1	PO2	PO3	PO4	PO5
CO1	High	Medium	High	High	High
CO2	High	Low	High	Medium	High
CO3	High	Low	Medium	Low	High

Visvesvaraya Technological University (VTU), Belagavi

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Assessment and Evaluation						
Course Code	MAED104	CIE Marks	50			
Teaching Hours per week	00:03:00	SEE Marks	50			
Total Hours of Pedagogy	03*16 = 48	Total Marks	100			
Credits	03	Exam Hours	03			

Course Learning Objectives:

The course aims to create awareness in students with respect to:

- The difference between Assessment and Evaluation.
- The need to adopt assessment strategy catering to the learning outcome and student abilities.

Note: Assignments for the course should be designed with respect to competency development in Architecture education. It is recommended that the assignments involve the application of theories while the test or exams can evaluate the deeper understanding of the content itself.

Module 1

Introduction to Assessment and Evaluation: Difference between Assessment and Evaluation. Classical Test Theory, Item Response Theory. Constructivist and Sociocultural theories of Assessment.

Module 2

Blooms Taxonomy and Assessment Design.

Formative and Summative Assessment, Diagnostic and Placement Assessment. Criterion vs Norm Referenced Assessment. Portfolio Assessment

Module 3

Principles of effective Assessment: Validity, Reliability, Fairness, Alignment. Degree of Understanding, Frequency, Effectiveness, Independence, Accuracy, Clarity. Assessment Tools, Rubrics.

Module 4

Ethics in Assessment and Evaluation: Consent and Confidentiality, Bias, fairness and Cultural Sensitivity, Integrity in assessments

Module 5:

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Technology and Assessment: Advantages and challenges of technology in Assessment and Evaluation. Assessment Tools. AI assisted Tools.

Mixed Assessment and Evaluation: Peer Review and Rubrics.

Suggested Learning Resources:

- 1. Nitko, A. J., & Brookhart, S. M. (2014). Educational assessment of students (7th ed.). Pearson.
- 2. **Popham, W. J. (2017).** Classroom assessment: What teachers need to know (8th ed.). Pearson.
- 3. **Stufflebeam, D. L., & Coryn, C. L. S. (2014).** Evaluation theory, models, and applications (2nd ed.). Jossey-Bass.
- 4. **McMillan, J. H. (2018).** Classroom assessment: Principles and practice for effective standards-based instruction (7th ed.). Pearson.
- 5. **Brookhart, S. M.** (2013). How to create and use rubrics for formative assessment and grading. ASCD.

Course Outcome [CO]:

On completing the course student will be able to:

- 1. Distinguish between assessment and evaluation.
- 2. Adopt models of assessment and evaluation based on learning outcomes and student capabilities.

Program Outcome [PO]:

- 1. Design course work considering curriculum demands, student abilities and educational contexts.
- 2. Contribute to the development of new knowledge and practices that shape architecture by actively participating in research activities.
- 3. Critique and interpret an architectural curriculum to maximize learning potential.
- 4. Address the changing educational needs of the architectural community and collaborate with academicians around the globe.
- 5. Develop inquisitiveness, reflection, determination and collaborative mentality to address changing educational needs of the architectural community.

	PO1	PO2	PO3	PO4	PO5
CO1	High	Low	High	0	High
CO2	High	Medium	High	Low	High

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Critical Reading and Writing					
Course Code	MAED155	CIE Marks	100		
Teaching Hours per week	00:00:04	SEE Marks	_		
Total Hours of Pedagogy	04*16 = 64	Total Marks	100		
Credits	02	Exam Hours			

Course Learning Objectives:

The course intends to develop in students:

- Effective reading, thinking and writing skills
- Academic literacy
- Academic engagement across disciplines

Note: Assignments for the course should be designed with respect to competency development in Architecture education.

Module 1

Introduction to different forms of Text:

What is Literature?

Introduction to fiction, Poetry, Academic Papers, Posters, Theatre Scripts,

Advertisements, Speech and Debates. How to Skim the text to evaluate an argument.

Module 2

Close Reading and Criticism: Tools and Methods

Previewing, annotating, outlining, summarising and responding.

Encourage Critical Thinking by analysing patterns of organisation, hierarchical structure, repetition of key ideas, diction.

Module 3

Analysing Literature and Poetry:

Analysing the title, tone and theme. Use of imagery and figurative language, Analyse diction, Rhythm and Rhyme, Structure of poems.

Examples: Sonnet, Haiku, Shayari, Dohe etc.

Module 4

Reading and Writing Research Papers:

Reading the Title of the paper and abstract. Analysing the aim and methodology, Interpretation of data, Understanding limitation and ethical implications. How to ask a question?

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Module 5

Writing Critically and Keeping up your Skills:

Formulating argument, evaluating data, collaboration, citing resources, proof reading, peer reviewing text.

Formulating strategies to practicing skill. Preparing short term and long-term goals. Students can be encouraged to write a paper and present on a platform.

Suggested Learning Resources:

Books:

- 1. An introduction to literature, Criticism and Theory; Routledge; Nicholas Royle and Andrew Bennet; 2023 (edn 6)
- 2. Critical Writing: A guide to Writing a Paper Using the Concepts and Process of Critical Thinking; Rowman and Little field; Gerald Nosich, 2021.
- 3. Developing Critical Reading Skills; McGraw Hill Humanities Social, Deanne Speares; 2012 (Ed 9)
- 4. Reading Poems: An introduction to Critical Study (Classic Reprint); Forgotten Books; Wright Thomas; 2019.
- 5. The Art of Fiction: Illustrated from Classic and Modern Texts, Vintage; David Lodge, 2011.

Journals

- 1. Journal of Architectural Education (JAE) Published by the Association of Collegiate Schools of Architecture (ACSA).
- 2. International Journal of Architectural Research (IJAR) Scholarly articles on architectural pedagogy and research.
- 3. Economic and Political Weekly (EPW)

Conference Proceedings

- 1. Association of Collegiate Schools of Architecture (ACSA) Annual Meeting Proceedings
- 2. International Conference on Education and Research in Construction (CIB W89)
- 3. Insights into teaching design-build methods and collaborative practices.
- 4. Online Platforms and Resources
- 5. JSTOR Comprehensive access to journals like JAE and BRI.
- 6. ScienceDirect Hosts journals like Automation in Construction.
- 7. Architectural Research Centers Consortium (ARCC) Research papers and presentations on pedagogy.
- 8. Routledge Architecture and Building Journals Extensive collection of educational resources.

Course Outcome:

On Completion of the Course the student will be able to:

- 1. Critically analyse text that aids in the process of knowledge making.
- 2. Prepare well-reasoned arguments.
- 3. Communicate efficiently in the field of Academia

Program Outcome:

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- 1. Design course work considering curriculum demands, student abilities and educational contexts.
- 2. Contribute to the development of new knowledge and practices that shape architecture by actively participating in research activities.
- 3. Critique and interpret an architectural curriculum to maximize learning potential.
- 4. Address the changing educational needs of the architectural community and collaborate with academicians around the globe.
- 5. Develop inquisitiveness, reflection, determination and collaborative mentality to address changing educational needs of the architectural community.

	PO1	PO2	PO3	PO4	PO5
CO1	High	High	Low	Low	High
CO2	High	High	Medium	High	High
CO3	Low	Medium	Low	High	High

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Teaching and Learning Methods [Professional Elective Course]							
Course Code	MAED156A	CIE Marks	100				
Teaching Hours per week	00:00:04	SEE Marks	_				
Total Hours of Pedagogy	Total Hours of $04*16 = 64$ Total Marks 100						

Exam Hours

Course Objectives:

Credits

The Course aims to develop:

- Awareness in students to adopt efficient teaching methods in classroom environment.
- Skills to incorporate technology in classroom learning.

02

Note: Assignments for the corse should be designed with respect to competency development in Architecture education. It is recommended that the assignments involve the application of theories .

Module 1

Characteristics of effective Teaching. Instructional Objectives – Bloom's Taxonomy, SMART objectives.

Module 2

Lecture Method – Planning and Delivering. Demonstration Method – Advantages and Limitations. Discussion Method – Questioning and Reasoning

Module 3

Inquiry and Problem Based Learning – Inductive Teaching and Critical Thinking. Project Method. Collaborative Learning.

Module 4

Role Play and Diverse Classroom Techniques – theatre and teaching, Multilingualism, Inclusion. Reflection Journals

Module 5:

 $Structuring\ a\ Lesson\ Plan-Consolidating\ Teaching\ Philosophy.\ Classroom\ Observation\ Report.$

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Suggested Learning Resources:

- 1. Borich, G. D. (2016). *Effective teaching methods: Research-based practice* (9th ed.). Pearson.
- 2. Killen, R. (2016). *Effective teaching strategies: Lessons from research and practice* (7th ed.). Cengage Learning.
- 3. Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). Classroom instruction that works: Research-based strategies for increasing student achievement. ASCD.
- 4. Eggen, P., & Kauchak, D. (2015). *Strategies and models for teachers: Teaching content and thinking skills* (10th ed.). Pearson.
- 5. Joyce, B., Weil, M., & Calhoun, E. (2014). Models of teaching (9th ed.). Pearson.
- 6. Brown, H. D. (2007). *Principles of language learning and teaching* (5th ed.). Pearson Education ESL.
- 7. Brookfield, S. D. (2017). *Becoming a critically reflective teacher* (2nd ed.). Jossey-Bass.
- 8. Frey, N., Fisher, D., & Everlove, S. (2009). *Productive group work: How to engage students, build teamwork, and promote understanding*. ASCD.

Course Outcome:

On completing the course the student will be able to:

- 1. Design Lesson plan with respect to course outcomes
- 2. Implement teaching methods in relation to student's ability.

Program Outcome:

- 1. Design course work considering curriculum demands, student abilities and educational contexts.
- 2. Contribute to the development of new knowledge and practices that shape architecture by actively participating in research activities.
- 3. Critique and interpret an architectural curriculum to maximize learning potential.
- 4. Address the changing educational needs of the architectural community and collaborate with academicians around the globe.
- 5. Develop inquisitiveness, reflection, determination and collaborative mentality to address changing educational needs of the architectural community.

	PO1	PO2	PO3	PO4	PO5
CO1	High	High	High	High	Medium
CO2	High	High	High	High	High

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Tactile 1	Learning
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[Professional Elective Course]

Course Code	MAED156B	CIE Marks	100
Teaching Hours per	00:00:04	SEE Marks	
week			
Total Hours of	04*14 = 64	Total Marks	100
Pedagogy			
Credits	02	Exam Hours	_

Course Learning Objectives:

The course aims to sensitise students in:

- Different modes of knowledge production by focusing on experiential learning.
- Developing inclusive attitude in their everyday transactions.

Module 1

Material and Systems: Explore building construction using various construction techniques and materials. With the help of different workshops students may be given the opportunity to explore systems of their choice.

Module 2

Theatre and Space Design: In a theatre workshop mode students maybe enabled to understand the idea of body in space. They can be encouraged to design structures suitable for performance.

Module 3

Art and Sculpture: Students can be encouraged to work with different visual and material mediums. Collaborations with other institutes can also be facilitated.

Module 4

Inclusivity: With the help of workshops and exercises students should be presented with the opportunity to work with People who are differently abled. Students can also be encouraged to learn a new language in the process.

Module 5

Students should be presented with the opportunity to engage with and learn from non human aspects of life and culture.

Egs: Animals, Deity, Totem, Geography, Ritualistic Practices

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Suggested Learning Sources:

- 1. Gardner, H. (2011). *Frames of mind: The theory of multiple intelligences* (3rd ed.). Basic Books.
- 2. Jensen, E. (2005). *Teaching with the brain in mind* (2nd ed.). ASCD.
- 3. Kuczala, M., & Lengel, T. (2010). *The kinesthetic classroom: Teaching and learning through movement*. Corwin.
- 4. Sousa, D. A. (2016). How the brain learns (5th ed.). Corwin.
- 5. Wilson, A. M., & Conyers, M. A. (2013). Flipping the brain: Rewiring for learning and teaching. Rowman & Littlefield.
 - Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners* (2nd ed.). ASCD.

Course Outcome:

On completing the course student will be able to:

- 1. Demonstrate ways in which differential learning can be adopted to enhance the experience of the student.
- 2. Demonstrate methods to enhance participation and collaboration in classroom environment.

Program Outcome:

- 1. Design course work considering curriculum demands, student abilities and educational contexts.
- 2. Contribute to the development of new knowledge and practices that shape architecture by actively participating in research activities.
- 3. Critique and interpret an architectural curriculum to maximize learning potential.
- 4. Address the changing educational needs of the architectural community and collaborate with academicians around the globe.
- 5. Develop inquisitiveness, reflection, determination and collaborative mentality to address changing educational needs of the architectural community.

	PO1	PO2	PO3	PO4	PO5
CO1	High	High	High	High	High
CO2	High	High	High	High	High

Visvesvaraya Technological University (VTU), Belagavi

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Diagramming as a Thinking Tool

[Professional Elective Course]

Course Code	MAED156C	CIE Marks	100
Teaching Hours per	00:00:04	SEE Marks	_
week			
Total Hours of	04*16 = 64	Total Marks	100
Pedagogy			
Credits	02	Exam Hours	

Course Objective:

The course intend to aid students in:

- Developing an understanding of how diagrams play a role in generating and processing ideas.
- Awareness of the different kind of diagrams and functions.

Note: It is recommended that assignments are applicatory in nature aiding in competency development oriented towards Architecture education.

Module 1

History and Functions of diagrams: Diagram, Drawing, Maps.

Flowcharts, mind maps, Venn diagrams, matrices.

Module 2

Diagrams in Cognitive psychology and knowledge organisation. System maps, feedback loops.

Use of diagrams to generate ideas and structure arguments.

Module 3

Architecture and Diagramming: Works of Tschumi, Eisenman, Rem Koolhas. Zaha Hadid, BV Doshi, Charles Correa.

Module 4

Narrative Diagrams: Storyboard, Sequencing. Timeline. Data Visualisation. Conceptual maps, learning diagrams, instructional design.

Module 5

Diagrams and Philosophical Thinking: Deleuze and Gauttari, Foucault, Spinoza.

Suggested Learning Sources:

- 1. Eisenman, P. (1999). Diagram Diaries. Thames & Hudson.
- 2. Larkin, J. H., & Simon, H. A. (1987). Why a diagram is (sometimes) worth ten thousand words. *Cognitive Science*, 11(1), 65–100.

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- 3. Kostelnick, C., & Roberts, D. D. (2010). *Designing Visual Language: Strategies for Professional Communicators* (2nd ed.). Pearson.
- 4. Ware, C. (2013). *Information Visualization: Perception for Design* (3rd ed.). Morgan Kaufmann.
- 5. Tufte, E. R. (2001). *The Visual Display of Quantitative Information* (2nd ed.). Graphics Press.
- 6. Lima, M. (2011). *Visual Complexity: Mapping Patterns of Information*. Princeton Architectural Press.
- 7. Arnheim, R. (1969). Visual Thinking. University of California Press.

Course Outcome:

On completing the course student will be able to:

- 1. Use diagrams to synthesize and analyse complex problems.
- 2. Demonstrate ideas with the help of diagrams
- 3. Develop clarity in visual and conceptual thinking.

Program Outcome:

- 1. Design course work considering curriculum demands, student abilities and educational contexts.
- 2. Contribute to the development of new knowledge and practices that shape architecture by actively participating in research activities.
- 3. Critique and interpret an architectural curriculum to maximize learning potential.
- 4. Address the changing educational needs of the architectural community and collaborate with academicians around the globe.
- 5. Develop inquisitiveness, reflection, determination and collaborative mentality to address changing educational needs of the architectural community.

	PO1	PO2	PO3	PO4	PO5	
CO1	Medium	High	High	Low	High	
CO2	Low	High	Medium	Mediu m	High	
CO3	Medium	High	High	Low	High	