

## **Collaborations**

Onsite Learning for students of M. Arch Design & Project Management

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### **Name of the Activity:**

**Onsite Learning - M. Arch Design & Project Management students learning practical project planning and management at Project site**

**Dates:** Every Thursday, Term I & Term II AY 2023-24

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### **Brief of the Activity:**

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The M. Arch Program in Design & Management follows pedagogy of “Learning through Projects”. Being a project management program the practical learning from the project sites is irreplaceable and SMEF’s Brick School of Architecture has implemented a Year-Long collaboration activity; wherein Brick approaches renowned Real Estate Developers in Pune and arranges for “onsite learning” for a group of students.

The process was initiated in July 2023, wherein the faculties approached Kumar Properties Group, VTP Realty and Vilas Javdekar Developers for the on-site learning activity. Having signed MOU with Brick, the developers facilitate the onsite learning of M. Arch DPM students by providing access to one of their large scale projects, interaction with project team and sharing drawings & documents as feasible.

The object of on-site learning is shared with the developers and project team before the students report to the respective sites. Students are exposed to various aspects of large scale projects during its pre-construction and construction phase. As per the academic curriculum, the courses of each semester highlight the learning requirements and data collection that the students perform at the site.

For Semester I the core courses - Project Budget Planning and Scheduling Techniques Studio and Elective I – Project Appraisal- were aligned with the on-site learning. For the Semester II the core courses – Design & Engineering Integration Studio for Performance of Complex Projects and Elective II High Rise Services were aligned with On-site learning.

Considering the requirement of a non-residential large scale project, the coordinating faculties approached Panchshil Realty for access to project site and information to one of their commercial projects. Though MOU is not signed with Panchshil Realty, they were accommodating to collaborate with Brick for academic enrichment.

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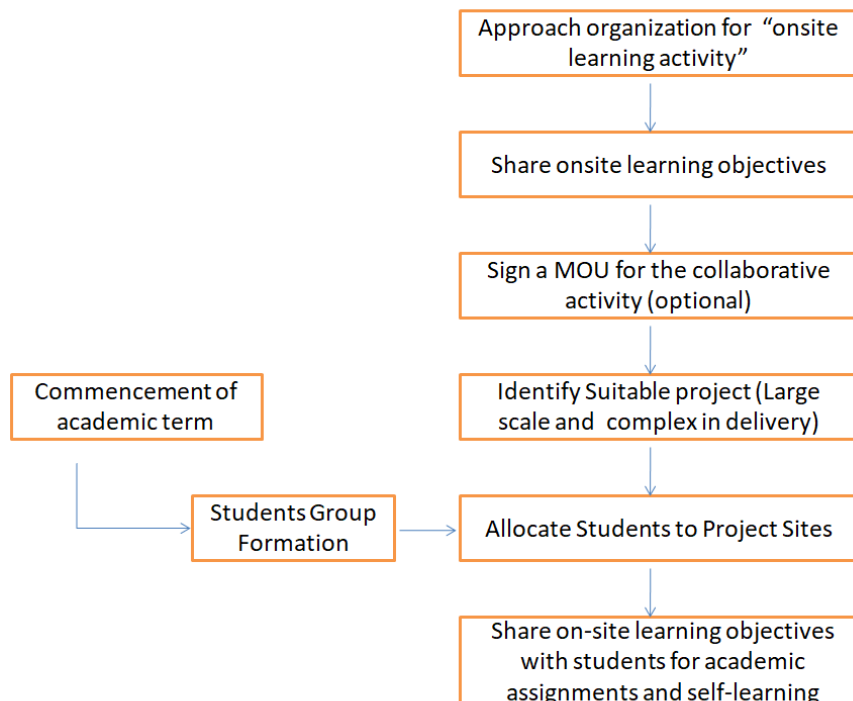
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### Project Sites allocated to students

Collaborating organization	Panchshil Realty	Vilas Javdekar Developers	VTP Realty	Kumar Properties Group
MOU signed with Brick	No	Yes	Yes	Yes
Project Site allocated to students for On-site Learning	Prestige Vantage Towers, Kharadi	VJ Portia Grande, Baner	VTP Euphoria, Kharadi	Kumar Princetown Royal, Undri
Students engaged in activity (12 Students)	1. Ishwari Tilekar 2. Siddhant Kamat 3. Aaditi Varma	1. Ajinkya Barke 2. Sayali Chinchore 3. Parth Thorat	1. Noaman Bagwan 2. Gauravi Kawade 3. Prasad Mahajan	1. Ayesha Dabir 2. Omkar Kale 3. Gauri Waikar
Faculty Coordinator	Ar. A Raghunandan	Ar. A Raghunandan	Ar. A Raghunandan	Ar. Farhana Kapadia
Contact at Project Site/Organization	Mr. Jakir Kazi	Ms. Khushi Indani Ms. Akshata Uttekar	Mr. Kalyan Kingston Mr. Omkar Adsul	Ar. Rohit Sardesai Ar. Manjiri Deshpande

### Process of On-Site learning Activity



## Collaborations

Onsite Learning for students of M. Arch Design & Project Management

## Onsite learning objectives shared for Semester I

SMEF's Brick School of Architecture, Pune						SMEF's Brick School of Architecture, Pune			
M. Arch in Design & Project Management						M. Arch in Design & Project Management			
Project Specific On-site Study and Studio topics						Project Specific On-site Study and Studio topics			
On-site Study			Studio assignments based on on-site project study						
Sl no.	Week	Date	Learn from Site	Interact with Project Team	Drawings/documents to be studied (detailed in Appendix A)	Project Budget planning & Scheduling technique Studio	Functional Performance of Building Services	Elective I- Project Appraisal	
1	Week 1	31-Aug-2023	Familiarization with project and scope	Project Manager	Understanding Organisation and its hierarchical structure, Departments (eg: HR, Procurement, QS & billing, etc.) and their responsibilities (including internal communication protocol) Project Brief, Scope of organization in the Project, understanding stakeholders and their role in the project and Project team.  Collecting over all project information including drawings, details, specifications, etc.		HVAC	Appraisal of Architectural aspects - context, space allocation, area assessment (BUA, Sale Area, Construction area, FSI consumed vs available, services, amenities, road, parking, etc.), project program (Spaces and services), Site layout, External development, Floor plans, sections, elevations, details, BOM (specifications), Identifying complexity (key risks) etc.  Appraisal of Structural Aspects - (Soil report, construction technique, technology applicable, structural design and detailing, identifying bottlenecks, etc.)	
2	Week 2	7-Sep-2023	Familiarization with Architectural aspects	Project Coordinator/design coordinator/ Design development team	Analyzing Architectural Drawings and specifications along with applicable Bye Laws.	Project familiarization and internalizing scope of organization working in the			
			Studying project site, site logistics	Project Manager	Location of site amenities and infrastructure to enable construction process	Construction Logic proposed			
			Construction logic	Project Manager	Construction Logic adopted at site and underlying reasons				
3	Week 3	14-Sep-2023	Familiarization with Structural Aspects	Project Coordinator/design coordinator/ Design development team	Analyzing Structural Drawings and Specification	WBS	Plumbing	Appraisal of Plumbing aspects (Water demand, waste water load, technology for water supply (available vs adopted), Technology for waste water handling (available vs adopted), specification of fittings and fixtures (available vs adopted))	
			Work packages and responsible agency	Project Manager	Observing the various work packages required for project delivery and listing the responsible agency	Activities (identification, sequencing, quantity, duration & resources estimation) Project Schedule (Project Calendar (commencement, planned end date, milestones, non-working days), project execution plan)			
4	Week 4	21-Sep-2023	Familiarization with PHE & FPS aspects	Project Coordinator/design coordinator/ Design development team / MEP Engineer	Analyzing PHE & FPS drawings and specifications				
			Study contract to understand activities, specifications and costing	Project Manager	Studying contracts to understand specification & costing				
5	Week 5	28-Sep-2023	Familiarization with Electrical Aspects	Project Coordinator/design coordinator/ Design development team / MEP Engineer	Analyzing Electrical drawings and specifications				
			Identifying activities	Project Manager/ Project Coordinator					
6	Week 6	5-Oct-2023	Familiarization with Mechanical & other services aspects	Project Coordinator/design coordinator/ Design development team / MEP Engineer	Analyzing Provisions for mechanical ventilation, circulation, security (CCTV), data, etc.	Resource Management (Identification, allocation, smoothing, levelling)	Electrical		
7	Week 7	12-Oct-2023	Resource (labor) requirements and productivity data	Project Manager	Sourcing labor, classification, skills type, skill level, Labor productivity data as per organization standards				Appraisal of Electrical aspects (Water demand, waste water load, technology for water supply (available vs adopted), Technology for waste water handling (available vs adopted), specification of fittings and fixtures (available vs adopted))
8	Week 8	19-Oct-2023	Resource (materials & Tools) requirement & inventory planning	Project Manager/ Project Coordinator/ Store Manager	Raising PR, issuing PO, receiving at site, inspection, storage, issue for consumption, audit & reconciliation	Budget planning (cost estimation, cash flow projections, etc.)			
9	Week 9	26-Oct-2023	Project Schedule	Project Manager/ Project Coordinator	Study the Project Schedule, resources, Milestones, critical tasks, near-critical tasks, float/slack etc.	Schedule Project and Set baseline	Circulation and security		
10	Week 10	2-Nov-2023	Schedule monitoring and controlling	Project Manager/ Project Coordinator	Work Progress Update in schedule, benchmark revision or schedule revision	Monitoring & Controlling (progress monitoring, progress update, delay analysis, EVM, weekly progress report, monthly progress report etc.)		Alternative analysis	
11	Week 11	9-Nov-2023	Earned Value Management	Project Manager/ Project Coordinator	Planned vs earned, Schedule variance, cost variance, Schedule performance Index, Cost performance Index, standard deviation, corrective measures adopted		Interdisciplinary Coordination, IBMS		
12	Week 12	16-Nov-2023							
13	Week 13	23-Nov-2023							
14	Week 14	30-Nov-2023							
Assignment Assimilation Week at College						Assimilation and Assessment of submission			

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## Onsite learning objectives shared for Semester I

SMEF's Brick School of Architecture, Pune							
M. Arch in Design & Project Management							
Project Specific On-site Study and Studio topics							
On-site Study			Studio assignments based on project specific				
Sf no.	Week	Date	Learn from Site	Interact with Project Team	Drawings/documents to be studied	Elective II- High Rise Building Services - Execution Planning (EIU)*	
1	Week 1	11-Jan-2024	Progress Tracking Track progress of project since previous visit	Site Team			
2	Week 2	18-Jan-2024	Study Water related services Scope- Deliverables and their specifications	Design Manager/Coordinator & Site team	As site: Water related services -Design Basis Report and BOQ  As HO: Project proposal	Project Alignment with Business Objective How is the project adding value to business (eg: Increasing profits, increasing portfolio size, increasing brand value, increasing customer confidence and satisfaction, increasing ESG aspects etc.)	
3	Week 3	25-Jan-2024	Execution planning for mock up of a toilet  Identify execution activities and deliver planning requirements  Identify links (predecessor/successor with civil and other services work)	Design Manager/Coordinator & Site team	As site: Construction Schedule, BOQ and Standard operating procedure (for activities)  As HO: Design team Organization Structure	Preconstruction Design Management Overview (a) Design Team, roles and responsibilities w.r.t design management	Project Procurement Management (PPM)@  Project Scope Identify deliverables that require external contractors. Make or buy decision for each deliverable.
4	Week 4	1-Feb-2024	Execution planning for mock up of a service block or a residential unit for residential units, kitchen will also get included  Identify links (predecessor/successor with civil and other services work)	Design Manager/Coordinator & Site team	As site: Construction Schedule, BOQ and Standard operating procedure (for activities)  As HO: Communications documentation (minutes of design coordination meeting etc.)	Preconstruction Design Management Flowchart (Identify design management processes (involving design development team and cross functional integration such as procurement, estimation etc.)  Communication within design team and cross-functional communication (What is communicated, when is it done, who does it, format for communication, documentation maintained) Communication could be an instruction/ task/ event/ deliverable etc.	Execution Planning (for 1 Toilet) a) Scope & specification b) SOP for work c) Resources required (labors, materials & tools/equipments) d) Activity scheduling and link with civil & other service works
5	Week 5	8-Feb-2024	Execution planning for mock up of 1 floor  Service shafts and ducts to be studied  Identify links (predecessor/successor with civil and other services work)	Design Manager/Coordinator & Site team	As site: Construction Schedule, BOQ and Standard operating procedure (for activities)  As HO: Design development schedule, statutory compliance framework.	Design Management Processes Timeline from ideation to launch and final delivery (a) time taken for feasibility, design development, procurement (b) policies of time for legal compliances, consultant on-boarding, vendor on-boarding (c) budgeting and stages of cost estimation (d) design review meetings	Suppliers & Sourcing For materials, determining the source of material, quality and performance of both material and supplier, delivery schedule, lead time, potential risks and obstacles in procuring material for a project, quotation & evaluation, performance benchmarking
6	Week 6	15-Feb-2024	Execution planning for mock up of 1 Tower  Basement and terrace area to be studied  Identify links (predecessor/successor with civil and other services work)	Design Manager/Coordinator & Site team	As site: Construction Schedule, BOQ and Standard operating procedure (for activities) (EI)*  As HO: Project Brief (DEIS)*, Contract document for consultant service (PPM)@	Project Definition Feasibility of project, formulation of project brief (Detailed Project Report) for architectural design, Design basis report (DBR) for services design, project success criteria  Energy Codes and Energy efficiency consideration	Execution Planning (for 1 Floor) a) Scope & specification b) SOP for work c) Resources required (labors, materials & tools/equipments) d) Activity scheduling and link with civil & other service works
7	Week 7	22-Feb-2024	Study Electrical - Deliverables and their specifications	Design Manager/Coordinator & Site team	As site: Electrical system -Design Basis Report and BOQ  As HO: Schematic Drawing and related processes	Stages of Design Development - Roles and responsibilities of design manager/coordinator in Schematic / outline / conceptual design	Execution Planning (for 1 Tower) a) Scope & specification b) SOP for work c) Resources required (labors, materials & tools/equipments) d) Activity scheduling and link with civil & other service works
8	Week 8	29-Feb-2024	Execution planning for high side electrical services  Identify links (predecessor/successor with civil and other services work)	Design Manager/Coordinator & Site team	As site: Construction Schedule, BOQ and Standard operating procedure (for activities) (EI)*  As HO: Preliminary Drawing and related processes	Stages of Design Development - Roles and responsibilities of design manager/coordinator in preliminary design and specification - Integration with engineering aspects	Inventory & Schedule Align with project for schedule of delivery w.r.t to construction schedule, inventory size and order magnitude and frequency.
9	Week 9	7-Mar-2024	Execution planning for Electrical Shaft  Identify links (predecessor/successor with civil and other services work)	Design Manager/Coordinator & Site team	As site: Construction Schedule, BOQ and Standard operating procedure (for activities) (EI)*  As HO: Detailed Drawing, Specification and related processes	Stages of Design Development - Roles and responsibilities of design manager/coordinator in detailed design and specification - Integration with engineering aspects	Execution Planning (High Side) a) Scope & specification b) SOP for work c) Resources required (labors, materials & tools/equipments) d) Activity scheduling and link with civil & other service works
10	Week 10	14-Mar-2024	Execution planning for 1 Floor (inside office/unit/elevator & escalator)  Identify links (predecessor/successor with civil and other services work)	Design Manager/Coordinator & Site team	As site: Construction Schedule, BOQ and Standard operating procedure (for activities) (EI)*  As HO: Tender drawings and documents	Stages of Design Development - Roles and responsibilities of design manager/coordinator in tendering through tender drawings and specifications - Integration with engineering aspects	Execution Planning (Inside electrical shaft) a) Scope & specification b) SOP for work c) Resources required (labors, materials & tools/equipments) d) Activity scheduling and link with civil & other service works
11	Week 11	21-Mar-2024	Execution planning for 1 Tower (common area/lobby/waiting area etc.)  Identify links (predecessor/successor with civil and other services work)	Design Manager/Coordinator & Site team	As site: Construction Schedule, BOQ and Standard operating procedure (for activities) (EI)*  As HO: Communication with consultant for changes, Impact of change on scope cost and time	Role of design manager/coordinator during execution	Execution Planning (for 1 Floor) a) Scope & specification b) SOP for work c) Resources required (labors, materials & tools/equipments) d) Activity scheduling and link with civil & other service works
12	Week 12	28-Mar-2024	Study FPS work - Deliverables and their specifications	Design Manager/Coordinator & Site team	As site: Fire Protection system -Design Basis Report and BOQ  As HO: Project Closure, As Built Drawings (compare with GFC for any one area)	Role of design manager/coordinator during handover and closing	Execution Planning (for 1 Tower) a) Scope & specification b) SOP for work c) Resources required (labors, materials & tools/equipments) d) Activity scheduling and link with civil & other service works
13	Week 13	4-Apr-2024	Execution planning for typical floor plate  Identify links (predecessor/successor with civil and other services work)	Design Manager/Coordinator & Site team	As site: Construction Schedule, BOQ and Standard operating procedure (for activities) (EI)*  As HO: Project Closure, As Built Drawings (compare with GFC for any one area)	Role of design manager/coordinator increasing energy efficiency of project	Statutory Requirements organizational and Labor compliances of vendor/contractor
14	Week 14	11-Apr-2024	Execution planning for High side (plant room)  Identify links (predecessor/successor with civil and other services work)	Design Manager/Coordinator & Site team	As site: Construction Schedule, BOQ and Standard operating procedure (for activities) (EI)*		Execution Planning (Typical Floor) a) Scope & specification b) SOP for work c) Resources required (labors, materials & tools/equipments) d) Activity scheduling and link with civil & other service works
15	Week 15	18-Apr-2024					Execution Planning (Plant Room) a) Scope & specification b) SOP for work c) Resources required (labors, materials & tools/equipments) d) Activity scheduling and link with civil & other service works

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## Collaborations

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## Photographs

Kumar Princetown Royal, Undri



M.Arch Students engaged in on-site learning and assisting the project team at the Kumar Princetown Royal Project Site

## Collaborations

Onsite Learning for students of M. Arch Design & Project Management

### Panchshil Vantage Towers, Kharadi

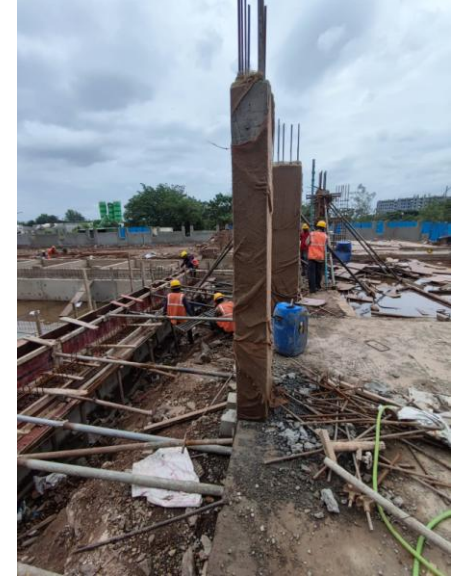


**M.Arch Students engaged in on-site learning and assisting the project team at the Panchshil Vantage Towers Project Site**

## Collaborations

Onsite Learning for students of M. Arch Design & Project Management

VTP Euphoria, Kharadi



M.Arch Students engaged in on-site learning and assisting the project team at the VTP Euphoria Project Site

**VJ Portia Grande, Baner**



**M.Arch Students engaged in on-site learning and assisting the project team at the Portia Grande Project Site**

The information gathered from these sites enabled the students for the studio exercises related to project familiarization, construction logic, site logistic, Work Breakdown Structure, Activity identification and attributes (such as duration, resources, relationship), baseline scheduling, Tracking progress and Earned Value Management, appraisal of services and specifications, area statement analysis, technique of construction, aluform construction, table formwork, concreting through pumps, pipelines and boom placers, Material testing laboratories, QC activities, Material management at site (raising PR & PO, receiving & storing materials, issue to contractor and reconciliation). The assignments were also designed to address the preconstruction phase by exploring the design management aspects. Students learned the communication and coordination protocol in Pre Construction process through drawings and consultants list.