**Department of Architecture**

**School of Architecture and planning**

**University of Management and technology**

**Course Outline**

**Course code:** AR-637 **Course title:** Architectural Technology - II

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| --- | --- |
| Program | M-Arch |
| Credit Hours | 3+0 |
| Duration | One semester(16 weeks) |
| Prerequisites | Architectural Technology - I |
| Resource Person | As per timetable |
| Counseling Timing | Kindly see office window |
| Contact | - |

**Chairman/Director signature………………………………….**

**Dean’s signature…………………………… Date………………………………………….**

**Learning Methodology:**

* Lectures as provided in the schedule of the semester activities.
* Study of recommended books uploaded on the Moodle and class given notes.
* Discussion on Term Project.

**Grade Evaluation Criteria**

Following is the criteria for the distribution of marks to evaluate final grade in a semester.

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| --- | --- |
| **Marks Evaluation** | **Marks in percentage** |
| Quizzes | 5% |
| Assignments | 10% |
| Mid Term | 25% |
| Term Project | 10% |
| Final exam | 50% |
| Total | 100% |

**Reference Books:**

**Introduction to Architectural Technology** By: Peter Silver and William McLean

**Architectural Technology: Research and Practice** By: Stephen Emmitt

**Theory and design in the first machine age** By: Reyner Banham

**Rethinking Technology: A Reader in Architecture** By: Ed. William W. Braham, Jonathan Hale

**Architecture, Technology and Process** By Chris Abel

**Software Architecture in Practice** By Len Bass, Paul Clements, and Rick Kazman

**BIM Handbook: A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers, 3rd Edition** By Rafael Sacks, Chuck Eastman, Ghang Lee, Paul Teicholz

**Calendar of Course Contents to be covered during Semester**

**Course code:** AR-637  **Course title:** Architectural Technology-II

|  |  |  |
| --- | --- | --- |
| **Week** | **Course Contents** | **Reference (s)** |
| 1 | Revision of the discussion on the Information Society, Technological Innovations and Architecture from Architectural Technology - I  **Introducing Assignment 1:** TBD | Research Paper:  Artificial Intelligence and Contemporary Japanese Architecture – Any Relationship?  Author: Ar. Dr. Danyal Ahmed  DOI:  <https://doi.org/10.1080/17508975.2019.1577212> |
| 2 | Introduction to the Anthropomorphization of Digital Technologies  **Submission of Assignment 1:** TBD | Research Paper:  Anthropomorphizing artificial intelligence: towards a user centered approach for addressing the challenges of over automation and design understandability in smart homes  Author: Ar. Dr. Danyal Ahmed  DOI:  <https://doi.org/10.1080/17508975.2020.1795612> |
| 3 | Introduction to the concept of ‘Smart Homes’  **Quiz 1:** TBD | Book Chapter:  Ghaffarianhoseini, Amirhosein, Ali Ghaffarianhoseini, Anthony Fleury, Hossein Omrany, John Tookey, Mahdiar  Ghaffarianhoseini, and Nicola Naismith. 2017. “The Essence of Smart Homes: Application of Intelligent  Technologies Towards Smarter Urban Future.” Chap. 4. in Artificial Intelligence: Concepts, Methodologies, Tools and Applications, edited by Information Resources Management Association USA, 79–121. Hershey, PA: IGI Global. |
| 4 | Assignment of fundamental human property (personality) by humans to  nonhumans (smart homes) – the sociology of equipment/device/object-centeredness | Report Consultation:  Knorr-Cetina, Karin. 1997. “Sociality with Objects: Social Relations in Postsocial Knowledge Societies.” Theory,  Culture and Society 14 (4): 1–43. Accessed November 6, 2019.  <http://nbn-resolving.de/urn:nbn:de:bsz:352-opus-80915> |
| 5 | Reading of the Research Report – 1st Half:  Knorr-Cetina, Karin. 1997. “Sociality with Objects: Social Relations in Postsocial Knowledge Societies.” | Report Consultation:  Knorr-Cetina, Karin. 1997. “Sociality with Objects: Social Relations in Postsocial Knowledge Societies.” Theory,  Culture and Society 14 (4): 1–43. Accessed November 6, 2019.  <http://nbn-resolving.de/urn:nbn:de:bsz:352-opus-80915> |
| 6 | Reading of the Research Report – 2nd Half:  Knorr-Cetina, Karin. 1997. “Sociality with Objects: Social Relations in Postsocial Knowledge Societies.”  **Introducing Assignment 2:** TBD | Report Consultation:  Knorr-Cetina, Karin. 1997. “Sociality with Objects: Social Relations in Postsocial Knowledge Societies.” Theory,  Culture and Society 14 (4): 1–43. Accessed November 6, 2019.  <http://nbn-resolving.de/urn:nbn:de:bsz:352-opus-80915> |
| 7 | Discussion on the History of Smart Homes  **Submission of Assignment 2:** TBD | National Geographic Documentary:  Title: City of the Future: Singapore  Available at: <https://www.youtube.com/watch?v=xi6r3hZe5Tg> |
| 8 | Understanding the ‘Uncanny Valley’ chart for technologically advanced architecture  **Quiz 2:** TBD | Research Paper:  Mori, Masahiro. [1970] 2012.“The Uncanny Valley.” IEEE Robotics & Automation Magazine19 (2): 98–100. Translated by Karl F. MacDorman and Norri Kageki. Accessed November 7, 2019.  <https://ieeexplore.ieee.org/document/6213238> |
| 9 | **MID TERM EXAMINATION** | |
| 10 | **Guest Lecture**:  Discussion on Smart-Home Technologies and Current Trends in Pakistan, Details TBD | |
| 11 | Discussion on the challenges towards integration of user’s life styles in smart homes | Book Chapter:  Ghaffarianhoseini, Amirhosein, Ali Ghaffarianhoseini, Anthony Fleury, Hossein Omrany, John Tookey, Mahdiar  Ghaffarianhoseini, and Nicola Naismith. 2017. “The Essence of Smart Homes: Application of Intelligent  Technologies Towards Smarter Urban Future.” Chap. 4. in Artificial Intelligence: Concepts, Methodologies, Tools and Applications, edited by Information Resources Management Association USA, 79–121. Hershey, PA: IGI Global. |
| 12 | Case Studying the works of following architect/technology theoretician Toyo Ito: Pre-fabricated Smart Homes of Today in Japan  **Introducing Term-Paper** | Rethinking Technology: A Reader in Architecture  By: Ed. William W. Braham, Jonathan Hale |
| 13 | Smart homes as social actors – perspectives from sociology and social psychology | Research Paper:  Anthropomorphizing artificial intelligence: towards a user centered approach for addressing the challenges of over automation and design understandability in smart homes  Author: Ar. Dr. Danyal Ahmed  DOI:  <https://doi.org/10.1080/17508975.2020.1795612> |
| 14 | Exploring Reeves, Byron, and Clifford Nass’ *The Media Equation: How People Treat Computers, Television, and New*  *Media Like Real People and Places*.  **Submission of Term-Paper** | Reeves, Byron, and Clifford Nass. [1998] 2002. *The Media Equation: How People Treat Computers, Television, and New*  *Media Like Real People and Places*. Stanford, CA: Center for the Study of Language and Information Stanford. |
| 15 | **FINAL TERM EXAMINATION** | |