**ARC7101**: **ADVANCED APPLIED DESIGN STUDIO**  **[75 CH]**

**Description**

This is a studio course with projects that involve equipping students with high level skills of design of a complex nature. Effective communication of the project, if possible with the use of advanced design technologies is stressed.

**Objectives**

1. Students to acquire skills of analysis and conceptualisation of complex design projects.
2. Students to apply advanced skills in architectural design projects.

**Course Content**

1. Evaluation of brief, site and contextual analysis **[15 CU]**
2. Conceptualisation of nature of project **[15 CU]**
3. Development of ordering principles **[15 CU]**
4. Environmental responses of a project **[15 CU]**
5. Advanced design technologies **[15 CU]**

**Learning Outcomes**

At the end of the course the students should be able to:

1. Competently address design challenges of complex nature.
2. Carry out high level investigation and design of complex architectural establishments

**Teaching and Learning Pattern**

The course will be delivered through a mixture of tutorials, illustrations, group discussions and site visits. Emphasis will be focused on developing high level skills of analysis and conceptualisation of projects.

**Mode of Assessment**

Assessment will be done through continuous interim assessments and final project presentation. Interim assessments will include assignments, interim presentations and practical exercises. Interim assessment will carry a total of 40%, and the final project presentation will carry 60%.

**Mode of delivery**

Course to be delivered through theory seminars, workshops and studio work

Lectures/Seminars/Workshops (30 hours), Practicals (120 hours). The total contact hours are 75

**Recommended Reference Books/ Literature**

1. Pascuali E., Carbonero P. And Coderch. R. P. (2010) [Advanced Architectural Model making](http://www.amazon.com/Advanced-Architectural-Modelmaking-Pascual-Mir%C3%B3/dp/0393733386/ref=sr_1_1?s=books&ie=UTF8&qid=1300702181&sr=1-1)
2. Aubin P. F. And Dillon M. (2006) [Autodesk Architectural Desktop: An Advanced Implementation Guide](http://www.amazon.com/Autodesk-Architectural-Desktop-Advanced-Implementation/dp/1418061387/ref=sr_1_3?s=books&ie=UTF8&qid=1300702181&sr=1-3)
3. Hensel M, Menges, M. And Weinstock, M (2004) [Emergence: Morphogenetic Design Strategies (Architectural Design)](http://www.amazon.com/Emergence-Morphogenetic-Design-Strategies-Architectural/dp/0470866888/ref=sr_1_6?s=books&ie=UTF8&qid=1300702181&sr=1-6) [Travi](http://www.amazon.com/Valerio-Travi/e/B001JXVVS2/ref=sr_ntt_srch_lnk_9?qid=1300702181&sr=1-9) V. (2001) [Advanced Technologies: Building in the Computer Age (The Information Technology Revolution in Architecture)](http://www.amazon.com/Advanced-Technologies-Information-Technology-Architecture/dp/B003156E74/ref=sr_1_9?s=books&ie=UTF8&qid=1300702181&sr=1-9)
4. Rostenberg, B. (2006) [The Architecture of Medical Imaging: Designing Healthcare Facilities for Advanced Radiological Diagnostic and Therapeutic Techniques](http://www.amazon.com/Architecture-Medical-Imaging-Radiological-Therapeutic/dp/0471716618/ref=sr_1_15?s=books&ie=UTF8&qid=1300702279&sr=1-15)
5. Thomas E. (2005) [Service-Oriented Architecture (SOA): Concepts, Technology, and Design](http://www.amazon.com/Service-Oriented-Architecture-SOA-Concepts-Technology/dp/0131858580/ref=sr_1_26?s=books&ie=UTF8&qid=1300702402&sr=1-26)

**ARC7102: THEORY OF DESIGN**  **[30 CH]**

**Description**

This is a theory course that introduces the students to wider design theories for practical applications to complex designs. It provides the student with knowledge that guide the design process.

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**Objectives**

1. To ground the student in the theories of architectural design at a high level
2. To equip the student with skills of analysing and applying design theories in the design process

**Course Content**

1. Contextual and user analysis **[05 CU]**
2. Role of the designer in society **[05 CU]**
3. Design development and synthesis **[05 CU]**
4. Evaluation of strategies **[05 CU]**
5. Use of materials **[05 CU]**
6. Teamwork methods **[05 CU]**

**Learning Outcomes**

At the end of the course the students should be able to:

1. Apply the design theories pertaining to the socio-economic environment under consideration.
2. Work as a team in handling design projects
3. Develop strategies for approaching a design challenge

**Teaching and Learning Pattern**

The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

**Mode of Assessment**

Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

**Mode of delivery**

Lectures/Seminars/ (30 hours), Practicals (0 hours). The total contact hours are 30

**Recommended Reference Books/ Literature**

1. Daniels, K. (1999) [Advanced Building Systems: A Technical Guide for Architects and Engineers](http://www.amazon.com/Advanced-Building-Systems-Technical-Architects/dp/3764367237/ref=sr_1_1?s=books&ie=UTF8&qid=1300956373&sr=1-1)
2. Reese, G. (2009) [Cloud Application Architectures: Building Applications and Infrastructure in the Cloud (Theory in Practice (O'Reilly))](http://www.amazon.com/Cloud-Application-Architectures-Applications-Infrastructure/dp/0596156367/ref=sr_1_1?s=books&ie=UTF8&qid=1300956452&sr=1-1)
3. [Brumbaugh](http://www.amazon.com/Larry-J.-Brumbaugh/e/B001KCWKL4/ref=sr_ntt_srch_lnk_5?qid=1300956452&sr=1-5), L.J. (1992) [Vsam: Architecture, Theory, and Applications (J Ranade Ibm Series)](http://www.amazon.com/Vsam-Architecture-Theory-Applications-Ranade/dp/0070086060/ref=sr_1_5?s=books&ie=UTF8&qid=1300956452&sr=1-5)
4. Eggen, P., and Sandaker, N. (1995) [Steel, Structure, and Architecture: A Survey of the Material and Its Applications](http://www.amazon.com/Steel-Structure-Architecture-Material-Applications/dp/0823050203/ref=sr_1_11?s=books&ie=UTF8&qid=1300956452&sr=1-11)
5. Handley, J. (2008) [Enterprise Architecture Best Practice Handbook: Building, Running and Managing Effective Enterprise Architecture Programs - Ready to use supporting ... Enterprise Architecture Theory into Practice](http://www.amazon.com/Enterprise-Architecture-Best-Practice-Handbook/dp/1921573112/ref=sr_1_27?s=books&ie=UTF8&qid=1300956617&sr=1-27)
6. de Valence, G. (2010) [Modern Construction Economics: Theory and Application](http://www.amazon.com/Modern-Construction-Economics-Theory-Application/dp/0415397065/ref=sr_1_36?s=books&ie=UTF8&qid=1300956617&sr=1-36)
7. Cox, T.J. and D'Antonio, P. (2009) [Acoustic Absorbers and Diffusers: Theory, Design and Application](http://www.amazon.com/Acoustic-Absorbers-Diffusers-Theory-Application/dp/0415471745/ref=sr_1_41?s=books&ie=UTF8&qid=1300956707&sr=1-41)