1.	Programme Title	BA (Hons) Architecture BA (Hons) IDEAs
2.	Unit Title	Specialist Study 1: Structure
3.	HE Level	UG 1 - FHEQ Level 4
4.	Unit Code	ARC16103
5.	Credit Value of Unit	30
6.	Unit Type	Mandatory
7.	Unit Tutor	Graham Stretton

8. Indicative Notional Learning Hours			
Staff – Student Contact		**Independent Study Hours**	
Classes (e.g. lectures, seminars and supervised group activity)	62	**Independent Study** (e.g. project development, reading, research and work on online forums)	92
Supervised Access to Resources	28	**Preparation for Assessment**	80
		Unsupervised Access to Resources	38
Total	90		210

9. Unit Introduction

This is a design unit focusing on an understanding of structure through the development of digital graphic skills, experimentation through model-making followed by construction at 1:1. (Look, see, draw, structure, construct parasitical intervention).

This unit includes the development of a range of CAD modelling and prototyping skills, gaining an understanding and testing of the performance of different materials, and with understanding iterative/non-linear processes in playful experimentation and analysis. The role of drawing packages in the production of constructed objects is introduced through the exploration of natural and man-made structure.

As a professional working in the fields of architecture / urban landscape architecture and design, an ability to communicate ideas is essential. Throughout project development, students and professionals need to call on various skills to convey their ideas to third parties. Being fluent in a variety of different media is essential in the creative workplace.

This unit will introduce students to the presentation and communication skills expected of all students at Ravensbourne and in all the creative industries. Students will learn a variety of communication methods using both traditional physical and online digital media, developing visual presentation skills for use in the generation, development and communication of ideas in a variety of different media forms.

10. Aims of the Unit

- To understand basic structural principles;
- To understand the basic principles of visual communication for presentation;
- To communicate ideas and proposals in physical and screen based media, through the selection of appropriate methods;
- To engage with different audiences and stakeholders;

- To make visual presentations, with particular reference to competence in use of the Ravensbourne Virtual Learning Environment and online blogs.

11. Indicative Content

As this unit responds to current industry practice, the content of this unit may vary in response to industry advancements. Topics will include:

- An introduction to the fundamental principles of three-dimensional analysis and problem solving in architecture / urban landscape architecture and design, against a series of material, constructional and dimensional constraints;
- An introduction to the range of digital applications available for the purposes of communication;
- A study of basic structural and constructional principles in relation to the properties of materials, the structural and aesthetic qualities of materials and structural systems, the efficient use of structure, the techniques and properties of joints and junctions, and the processes of assembly;
- An introduction to and development of visual communication skills: mark making, drawing, sketches, collage and/or photographic and video methods, including recognised standards of presentation and graphic presentation software including inputs, outputs and file management, basic composition, layout and use of type;
- Use of the web, online technology and social media as a tool, uploading and downloading to the Virtual Learning Environment and external websites, image acquisition and output;
- Introduction to appropriate supporting media, including photography and video (for moving image applications as presentation tools), examining issues of personal safety and professional identity, copyright, citation of source material and academic reference systems.

12. Unit Learning Outcomes

In order to successfully satisfy the learning outcomes students are required to engage with the process of learning. The learning outcomes refer to developing the following attributes and must be read in conjunction with these:

GA1.2 Ability to apply a range of communication methods and media to present design proposals clearly and effectively;

GA1.3 Understanding of the alternative materials, processes and techniques that apply to architectural design and building construction.

Learning Outcome	Marking Criteria	
On completion of this unit students will have demonstrated:		
1. Knowledge and understanding of basic structural types and their application in construction; **(ref: ARB/RIBA GC8.1)**	☒ Research ☒ Analysis ☒ Subject Knowledge ☒ Experimentation	☒ Technical Competence ☐ Communication & Presentation ☐ Personal & Professional Development ☒ Collaborative and / or Independent Professional working

2. Knowledge and understanding of the use and properties of connections and detail in the design of structures; **(ref: ARB/RIBA GC8.2)**	☒ Research ☒ Analysis ☒ Subject Knowledge ☒ Experimentation	☒ Technical Competence ☐ Communication & Presentation ☐ Personal & Professional Development ☒ Collaborative and / or Independent Professional working
3. Understanding of the nature of materials and their uses in the design of built structures; **(ref: ARB/RIBA GC8.3)**	☒ Research ☒ Analysis ☒ Subject Knowledge ☒ Experimentation	☒ Technical Competence ☐ Communication & Presentation ☐ Personal & Professional Development ☒ Collaborative and / or Independent Professional working
4. The ability to use a variety of techniques, methods and media to articulate ideas clearly and communicate effectively with a client or audience;	☐ Research ☒ Analysis ☐ Subject Knowledge ☒ Experimentation	☐ Technical Competence ☒ Communication & Presentation ☒ Personal & Professional Development ☒ Collaborative and / or Independent Professional working
5. Effective team working skills;	☐ Research ☐ Analysis ☐ Subject Knowledge ☐ Experimentation	☐ Technical Competence ☒ Communication & Presentation ☒ Personal & Professional Development ☒ Collaborative and / or Independent Professional working

Please see the Project Brief for a more detailed explanation of the relationship between learning outcomes and marking criteria.

13. Learning and Teaching Methods

This unit will be delivered using a combination of:

- Briefings ☒
- Lectures ☒
- Project work ☒
- Seminars ☒
- Workshops ☒
- Group work ☒
- Online activity ☒
- Individual Presentations and critiques ☒
- Group presentations and critiques ☒
- Self-directed independent study ☒

- Other (describe below) ☐

14. Assessment Methods

<u>Indicative Assessment Tasks</u>

1. Research structural types, indicating sources, in text, images, drawings and diagrams;
2. Research material properties, junctions and connections between members and materials used in structures;
3. Design + construct a self-supporting structure using 2D and 3D sketching, drafting and modelling methods;
4. Prepare a blog / portfolio / dossier / journal that coherently communicates tasks 1-3 using a variety of media (max 3000 words plus illustrations).

All assessment elements to be uploaded at formative and summative stages on Moodle

The assessment for this unit is weighted. In element-based assessment, you must achieve at least an E grade in each element, and an aggregate grade of at least D- in the overall unit. Failure (F, or F-), or non-submission in any element defaults to Fail for the unit.

This unit is assessed through two elements, weighted as follows:
Group work (40%)   Assessment Tasks 1-3
Individual Work (60%)   Assessment Task 4

All learning outcomes must be achieved to pass this unit.

15. Reading and Resource List

<u>Structures</u>

Chilton, J. (2000) *Space Grid Structures* Oxford: Architectural Press;

Deplazes, A. (2005) *Constructing Architecture – Materials Processes and Structures A Handbook* Basel Berlin Boston: Birkhäuser;

Herzog, T. (2003) *Timber Construction Manual* Basel Berlin Boston: Birkhäuser;

Mainstone and Rowland (1998) *Developments in Structural Form* Oxford: Architectural Press;

<u>Communcations</u>

Bradbury, A. (2006) *Successful Presentation Skills* London: Kogan Page.

Cantrell, Bradley and W Michaels (2010) *Digital Drawing for Landscape Architecture* Hoboken: Wiley

De Bono, E. (2010) *Lateral Thinking : Handbook for Creativity*, London: Penguin

Entwistle, Trudi and Edwin Knighton (2013) *Visual Communication for Landscape Architecture*. London and New York: Fairchild Books.

Lankow, J. (2012) *Infographics: The Power of Visual Storytelling* Hoboken: Wiley.

Reid, Grant W. (1987) *Landscape Graphics 2nd. ed*. New York: Watson-Guptil Publications

Waterman, Tim (2015) *Fundamentals of Landscape Architecture 2nd ed.* London: Fairchild;

Zell, Mo (2008) *The Architectural Drawing Course* London: Quarto

Report Writing:

Bowden, J. (2004) *Writing a report: how to prepare, write and present effective reports* Oxford: How to Books.

Gravett, S. (1998) *The Right Way to Write Reports: That are Accurate, Clear, Concise and Effective* Tadworth: Right Way.

Further Reading and Resources Further reading and resources will be identified in your Brief.