



BACHELORS DEGREE ASSIGNMENT SPECIFICATION

Student name:		Student P number:	
Programme:	ARCHITECTURE		
Module:	TECHNOLOGY and ENVIRONMENT 1	Module Level (4, 5, 6):	4
Module code:	M4X01974	Contribution to Overall Module Assessment (%):	40%
Lecturer:	Ian Standen	Internal Verifier:	Lara Hopkinson
Assignment Title:	Dwelling House Design and Performance	Assignment No (x of x):	2 of 3
Hand Out Date:	23/11/2017	Submission deadline:	15/03/2018

Referencing:	In the main body of your submission you must give credit to authors on whose research your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have read or quoted in order to complete this assignment (e.g. for books: surname of author and initials, year of publication, <u>title of book</u> , edition, publisher: place of publication).			
Disclosure:	I declare that this assignment is all my own work and that I have acknowledged all materials used from the published or unpublished works of other people. All references have been duly cited.			
Student's Signature:	Assignments will not be accepted without a signature here	Date:		
Turnitin: Lecturer to tick to indicate if an electronic version of the assignment must be submitted to Turnitin. Note: the Turnitin version is the primary submission and acts as a receipt for the student. Both electronic and paper versions MUST be submitted by the same deadline. No marks will be released until both submissions are received. Late submission of the electronic version will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 40%. Over four weeks late, Refer.			YES	x
			NO	

Learning Outcomes tested (from module syllabus)	Assessment Criteria To achieve each outcome a student must demonstrate the ability to:
Describe appropriate site evaluation, site and soil investigation techniques	Produce, reasoned coherent, well organised information to describe methods of constructing low rise domestic dwellings.
Identify the different types of sub structure available for a range of low-rise building systems and techniques used in their production.	Identify with some comparative analysis key performance issues regarding material and structural selection and use for buildings. Use appropriate media/ presentation methods to organise and present information showing knowledge and understanding of the subject

	area.
Define and produce annotated sketches that illustrate a broad range of common constructional forms, demonstrating understanding of their potential defect and repair needs.	Describe contemporary systems available for energy production and energy conservation applicable to domestic dwellings.

- **Please submit the assignment parts in a suitable report folder/ portfolio– not in polypockets. All drawings must be flat in a suitable folder or portfolio. NO rolled up drawings will be accepted.**
- **This form (ALL PAGES) MUST be at the front of the paper submission. Assignments will not be accepted without this form as it is a requirement that you sign the disclosure regarding referencing convention.**
- **DO NOT put this form into Turnitin or it will match many similarities with other students' submissions.**
- **You MUST complete the Student Self Evaluation form.**

TASK DESCRIPTION

A small local developer R.U. Bigonov has put an offer on the site of a former builder's yard in Cardiff. The site is set in a quiet backwater away from the main roads but surrounded by existing houses on all sides. There is a ponded area and some established trees at the boundary with some of the existing houses. The boundaries to the site comprise a 2-3 m high stone wall or 2m high timber fence where land has been given to the site from the back of existing gardens. A sketch scheme has been prepared by a local architect to establish a density for the site and maximise the return value for the developer. The drawn proposals are attached to this assignment for your information.

Study the drawings carefully for the site details, constraints, configuration, access and the plans/ elevational treatment for the houses proposed (e.g. eaves projection, roof pitch, roof type, types of windows, wall finishes etc.).

The lecture series will provide the background information to complete the coursework, coupled with your own study and research. Attendance at the lectures will provide crucial information to assist in answering the coursework requirements.

Your submission must comprise drawings or neat sketches to approximate scale together with an A4 technical report document with up to 1500 maximum word count plus or minus 10%. This word count excludes your bibliography.

You have been asked to critically review the proposals as shown on the drawings and provide additional information for the client to review before committing to the development.

Prepare Plans

Draw/ sketch out the plans of the house in scale at a scale of 1:100 or 1:50 on A3 paper. A bar scale is shown on the plans and based on these you can make general assumption regarding the overall size of each house unit.

Site and Climate

The client for the house you have been given is unsure about the best location for the houses on site. Write notes and provide sketches to describe to the client the best site location in your opinion for the houses in terms of aspect and climate. Assume for the purposes of this exercise that the site is level as shown on the site plan attached.

Key Section Drawing

What type of foundation would you recommend for this project and why?

In this instance what specific or typical site factors must be taken in to consideration when making the choice?

Draw/ sketch a typical section through a house at a scale of 1:50 (make all assumptions necessary for the heights of floor and roof, including suitable roof pitch). Indicate key dimensions, heights, thicknesses of walls, roof and floors. Add notes to describe your choice of construction materials used to build the house and reasons for choosing these materials.

Roof

Write brief notes with sketches where necessary to describe the factors to be considered when designing a roof for a domestic building especially in regard to the roof type shown on the drawings.

First Floor Construction

Using annotated sketches to describe how a suspended timber floor is constructed in a two storey house. What measures can be adopted to improve the acoustic performance of the construction and particularly with regard to the party wall between the two houses shown.

Internal Stud Partitions

The first floor wall layouts for the houses are likely to be in lightweight construction.

Describe the construction of a timber internal stud partition and the materials used. Use sketches wherever possible to explain your answer.

Staircase

Study the plans of the house and draw/sketch to a scale of 1:10 a plan and section of the staircase in sufficient detail to comply with the requirements of approved document part K of the building regulations. Ensure that key dimensions are shown and numbers of risers indicated.

Window Details

Draw sketch sections at a scale of 1:5 through the head, jamb and sill of a typical window shown on the elevation sketch provided to show how it is constructed and assembled with either masonry or timber framed wall (your choice of wall type) indicating the important performance criteria.

External Walls

Describe 2 different methods of constructing a wall to ensure that the internal surface is dry at all times. What are the advantages and disadvantages of completely filling a masonry cavity wall with insulation? Explain the requirements that govern the design of a cavity wall. How are these requirements met? Using sketches and explanatory notes show how the junction between a solid ground floor slab, the foundation and a masonry cavity wall is formed in domestic construction.

Sustainable Healthy Living

The client wants the houses to be sustainable and provide future occupants with a healthy environment in which to live.

What is your understanding of the terms 'sustainable' and 'sustainability' in terms of domestic construction?

What materials do you consider sustainable in the construction of these houses and why?

What form of energy for heating and power would you suggest for the houses you have been given?

Please give reasons for your choices.

GUIDANCE FOR STUDENTS IN THE COMPLETION OF TASKS

(Lecturer – please insert guidance for students here. Please link the task to the five common assessment criteria overleaf)

Requirements

- You are required to submit by Turnitin a 1500 word formal report with sketches/drawings as necessary and a printed copy to the Department Secretary Christine Lewis.
- You should answer properly your chosen topic, in a formal English writing.

Assessment considerations

- Research-informed literature: Correct referencing according to the Harvard Referencing System.
- Knowledge and understanding of Subject: Understanding of topic developed. Knowledge shown.
- Analysis: Organisation of ideas and discussion in depth. Comparison to different information and other analysis
- Practical application and deployment: Examples of application, methodologies, case studies, synthesis schemes and graphics, originality and personal contribution.
- Skills for professional practice: Capacity for expressing ideas and writing. Initiative for the introduction of new aspects and vision.

MARKING CRITERIA AND STUDENT FEEDBACK

This section details the assessment criteria. The *extent* to which these are demonstrated by you determines your mark. The marks available for each criterion are shown. Lecturers will use the space provided to comment on the achievement of the task(s), including those areas in which you have performed well and areas that would benefit from development/improvement.

Common Assessment Criteria Applied	Marks available	Marks awarded
1. Research-informed Literature Extent of research and/or own reading, selection of credible sources, application of appropriate referencing conventions.		
	10	
2. Knowledge and Understanding of Subject Extent of knowledge and understanding of concepts and underlying principles associated with the discipline.		
	20	
3. Analysis Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence		
	30	
4. Practical Application and Deployment Deployment of methods, materials, tools and techniques; application of concepts; formulation of innovative and creative solutions to solve problems.		
	20	
5. Skills for Professional Practice Attributes in professional practice; individual and collaborative working; deployment of appropriate media; presentation and organisation.		
	20	

Assignment Mark (Assessment marks are subject to ratification at the Exam Board. These comments and marks are to give feedback on module work and are for guidance only until they are confirmed.)	Late Submission Penalties (tick if appropriate)	
	Up to four weeks late	40 %
	Over one week late	0%

COMMON ASSESSMENT AND MARKING CRITERIA

Assessment Criteria	OUTRIGHT FAIL	UNSATISFACTORY	SATISFACTORY	GOOD	VERY GOOD	EXCELLENT	EXCEPTIONAL
	0-29%	30-39%*	40-49%	50-59%	60-69%	70-79%	80-100%
1. Research-informed Literature Extent of research and/or own reading, selection of credible sources, application of appropriate referencing conventions	Little or no evidence of reading. Views and findings unsupported and non-authoritative. Referencing conventions largely ignored.	Poor evidence of reading and/or of reliance on inappropriate sources, and/or indiscriminate use of sources. Referencing conventions used inconsistently.	References to a limited range of mostly relevant sources. Some omissions and minor errors. Referencing conventions evident though not always applied consistently.	Inclusion of a range of research-informed literature, including sources retrieved independently. Referencing conventions mostly consistently applied.	Inclusion of a wide range of research-informed literature, including sources retrieved independently. Selection of relevant and credible sources. Very good use of referencing conventions, consistently applied.	A comprehensive range of research informed literature embedded in the work. Excellent selection of relevant and credible sources. High-level referencing skills, consistently applied.	Outstanding knowledge of research-informed literature embedded in the work. Outstanding selection of relevant and credible sources. High-level referencing skills consistently and professionally applied.
2. Knowledge and Understanding of Subject Extent of knowledge and understanding of concepts and underlying principles associated with the discipline.	Major gaps in knowledge and understanding of material at this level. Substantial inaccuracies.	Gaps in knowledge, with only superficial understanding. Some significant inaccuracies.	Evidence of basic knowledge and understanding of the relevant concepts and underlying principles.	Knowledge is accurate with a good understanding of the field of study.	Knowledge is extensive. Exhibits understanding of the breadth and depth of established views.	Excellent knowledge and understanding of the main concepts and key theories. Clear awareness of challenges to established views and the limitations of the knowledge base.	Highly detailed knowledge and understanding of the main theories/concepts, and a critical awareness of the ambiguities and limitations of knowledge.
3. Analysis Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence	Unsubstantiated generalisations, made without use of any credible evidence. Lack of logic, leading to unsupportable/missing conclusions. Lack of any attempt to analyse, synthesise or evaluate.	Some evidence of analytical intellectual skills, but for the most part descriptive. Ideas/findings sometimes illogical and contradictory. Generalised statements made with scant evidence. Conclusions lack relevance.	Evidence of some logical, analytical thinking and some attempts to synthesise, albeit with some weaknesses. Some evidence to support findings/ views, but evidence not consistently interpreted. Some relevant conclusions and recommendations, where relevant	Evidence of some logical, analytical thinking and synthesis. Can analyse new and/or abstract data and situations without guidance. An emerging awareness of different stances and ability to use evidence to support the argument. Valid conclusions and recommendations, where relevant	Sound, logical, analytical thinking; synthesis and evaluation. Ability to devise and sustain persuasive arguments, and to review the reliability, validity & significance of evidence. Ability to communicate ideas and evidence accurately and convincingly. Sound, convincing conclusions / recommendations.	Thoroughly logical work, supported by evaluated evidence. High quality analysis, developed independently or through effective collaboration. Ability to investigate contradictory information and identify reasons for contradictions. Strong, persuasive, conclusions, justifiable recommendations.	Exceptional work; judiciously selected and evaluated evidence. Very high quality analysis, developed independently or through effective collaboration. Ability to investigate contradictory information and identify reasons for contradictions. Highly persuasive conclusions
4. Practical Application and Deployment Effective deployment of appropriate methods, materials, tools and techniques; extent of skill demonstrated in the application of concepts to a variety of processes and/or contexts; formulation of innovative and creative solutions to solve problems.	Limited or no use of methods, materials, tools and/or techniques. Little or no appreciation of the context of the application.	Rudimentary application of methods, materials, tools and/or techniques but without consideration and competence. Flawed appreciation of the context of the application.	An adequate awareness and mostly appropriate application of well established methods, materials, tools and/or techniques. Basic appreciation of the context of the application.	A good and appropriate application of standard methods, materials, tools and/or techniques. Good appreciation of the context of the application, with some use of examples, where relevant.	A very good application of a range of methods, materials, tools and/or techniques. Very good consideration of the context of the application, with perceptive use of examples, where relevant. Evidence of some innovation and creativity.	An advanced application of a range of methods, materials, tools and/or techniques. The context of the application is well considered, with extensive use of relevant examples. Application and deployment extend beyond established conventions. Innovation and creativity evident throughout.	Outstanding levels of application and deployment skills. Assimilation and development of cutting edge processes and techniques.
5. Skills for Professional Practice	Communication media is inappropriate or misapplied.	Media is poorly designed and/or not suitable for the audience.	Can communicate in a suitable format but with some	Can communicate effectively in a suitable format,	Can communicate well, confidently and consistently	Can communicate professionally and, confidently	Can communicate with an exceptionally

Demonstrates attributes expected in professional practice including: individual initiative and collaborative working; deployment of appropriate media to communicate (including written and oral); clarity and effectiveness in presentation and organisation.	Little or no evidence of autonomy in the completion of tasks. Work is poorly structured and/or largely incoherent.	Poor independent or collaborative initiative. Work lacks structure, organisation, and/or coherence	room for improvement. Can work as part of a team, but with limited involvement in group activities. Work lacks coherence in places and could be better structured.	but may have minor errors. Can work effectively as part of a team, with clear contribution to group activities. Mostly coherent work and is in a suitable structure.	in a suitable format. Can work very well as part of a team, with very good contribution to group activities. Work is coherent and fluent and is well structured and organised.	in a suitable format. Can work professionally within a team, showing leadership skills as appropriate, managing conflict and meeting obligations. Work is coherent, very fluent and is presented professionally.	high level of professionalism. Can work exceptionally well and professionally within a team, showing advanced leadership skills. Work is exceptionally coherent, very fluent and is presented professionally.
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Student Self Evaluation Form

Student name:		Student number:	P	
Programme:		Year of programme		
Assignment Title:				

This section repeats in brief the common assessment criteria detailed on previous pages. The *extent* to which these are demonstrated by you determines your mark. Using these criteria, tick the box that best indicates the level of achievement you feel you have achieved with regard to each of them.

Common Assessment Criteria Applied	Level of Achievement						
	REFER		3 rd	2:2	2:1	1 st	1 st
	OUTRIGHT FAIL	UNSATISFACTORY	SATISFACTORY	GOOD	VERY GOOD	EXCELLENT	EXCEPTIONAL
1. Research-informed Literature	0-29% ☐	30-39% ☐	40-49% ☐	50-59% ☐	60-69% ☐	70-79% ☐	80-100% ☐
2. Knowledge and Understanding of Subject	0-29% ☐	30-39% ☐	40-49% ☐	50-59% ☐	60-69% ☐	70-79% ☐	80-100% ☐
3. Analysis	0-29% ☐	30-39% ☐	40-49% ☐	50-59% ☐	60-69% ☐	70-79% ☐	80-100% ☐
4. Practical Application and Deployment	0-29% ☐	30-39% ☐	40-49% ☐	50-59% ☐	60-69% ☐	70-79% ☐	80-100% ☐
5. Skills for Professional Practice	0-29% ☐	30-39% ☐	40-49% ☐	50-59% ☐	60-69% ☐	70-79% ☐	80-100% ☐

PLEASE COMMENT ON AREAS IN WHICH YOU FEEL THAT YOU HAVE PERFORMED WELL	PLEASE COMMENT ON AREAS YOU FEEL THAT YOU NEED TO DEVELOP

Student's Name		Date	
Student's Signature			

