

# UH Uni of Hertfordshire

## Comment on Student submissions

Many of the comments apply to many of the students.

Some apply to individual students

Most students will benefit from reading all of the notes

The following are guidance on a good approach

You need to understand where yours fails to address the approach and edit or add to solve it

These notes do not set out to answer 'what do I need to do to raise my score to get a pass'

But if you respond positively to them then you are likely to get a pass.

Grey tone has been edited since the previous issue

Red text and grey tone is new for the students particular attention

### Task 2

#### IAD Library interior project

Generally:

- There is a lot of commentary by others, I would rather hear your voice, your opinion, your conclusions.
- I would like to hear what you learned from the precedent studies that you can carry into your project
- Internally acoustic insulation may be needed but thermal may be redundant.
- Show some construction details of walls/ceilings/floors showing additions.
- Cover
  - Where are project number, project name, student name, date, revisions (if) etc.?
- Contents
  - Page titles do not always correspond to page content
  - Content Page numbers do not correspond to file page numbers (Contents on page 2 not 1)
  - Pages not numbered on pages
- Consider your page order:
  - Client Brief/Schedule of accommodation areas/numbers of furniture, existing and your critical response to it, design ideas, development, moods, colours, scheme/furniture clusters, plans/3Ds, floor/ceiling layouts, and details, areas/furniture numbers achieved
- GA plans & Schedule:
  - Client brief: first, achieved in design: second?
  - Legend and colour coded plans and schedule?
  - Add names to all rooms, desks, locations, zones, areas
  - Show locations of client's requirement for objects and functions
  - Ignores or fails to mention light well or basement in middle and how they impinge on your design and your response to them
  - Ignores or fails to mention perimeter windows and how you respond to them, if at all

Containers:

- Containers are self-rusting steel 'corten' special primer and painted, they will not rust in dry internal conditions.
- Timber could provide ultimate versatility outside of the confines of the container module.
- There is a plan ghosting under text that appears to ignore container modules.
- All plans need to show container modules, when the square plan is not the same size as the rectangular container
- Room layouts need to acknowledge access doors, vents, window, hatch positions, and internal circulation routes.
- One early plan feels like a site hut furniture layout.
- 10 people into one container will not go.
- 10m2 per person is a reasonable size for office space
- Hints of claustrophobic spaces may need to be addressed: with lights and mirrors?

### Heart of Herts

- No student name in file name
- Should this be a scan rather than photographs (image quality is poor in some places)
- Cover
  - Where are project number, project name, student name, date, etc.?
  - What does SLH Design mean in this context? why repeat if it does not mean anything?
- Heart of Herts:
  - Clever name would like to see it developed and emphasized in the plan
    - (but later deconstruction explains this)
  - Love Togetherness Passion Life
    - Could have made connection to definition of heart more obvious (made by me on second visit)

- Could have been turned into a more intense and interesting graphic covering more of the client's ambitions or designated areas.
  - Bold colour coded fonts is helpful but unbold coloured text is not as successful
- Could have show diagram of the heart being deconstructed into separate curves and deployment in scheme
- Grammar: ...into a space that caters for all... ?
- The sequence of drawings is unhelpful, page order is in turmoil
  - Consider your page order:
  - Client Brief/Schedule of accommodation areas/numbers of furniture (part of Summary), existing and your critical response to it, design ideas (part of Summary), development, moods, colours, scheme/furniture clusters, plans/3Ds, floor/ceiling layouts, and details, areas/furniture numbers achieved (Part of Summary)
  - Client aspiration included repurposing furniture,
    - could any have been deconstructed and remanufactured?
  - Signposting not engage with
  - Essential facilities not explicitly mentioned on plans or engaged in text
- GA plans & Schedule:
  - Client brief first, achieved in design second?
  - Legend and colour code plans and schedule?
  - Add names to all rooms, desks, locations, zones, areas
  - Show locations of client's requirement for Kiosks and functions
  - Ignores or fails to mention light well or basement in middle and how they impinge on your design and your response to them
  - Ignores or fails to mention perimeter windows and how you respond to them, if at all
- Event layout:
  - Difference is not obvious. Use bolder font for additional notes.
  - Show optional event furniture layouts?
  - Could have gone close-up, like the Renders
  - Is storage location distance practical?
  - Could the removed furniture become time-limited desking?
- Floor materials plan:
  - Mood/Colours first than plans?
  - Graphics very poor: Use colour areas, not lines (could mean directions) and dots (could mean foot prints) to show the shapes of the areas.
  - Is this where you could be communicating: security, entry, exit, flow, direction, distribution, circulation?
    - If not, where?
  - Is this where you communicate individual and group working?
    - If not, where?
  - Using lines for tone: needs close lines, thin lines, straight lines, ruled lines
  - Maple and Birch are directional materials and lines could be used graphically to represent the materials
  - Amorphous shapes need to show any material directions on the layout
  - Carpet might be rolls or tiles, could that have been represented?
  - Consider design dictates cutting and over-order waste (UK construction consume 400m tonnes/annum and wastes 100m tonnes/annum, interiors get refitted many times during building life)
- Mood Board:
  - No expressed engagement with Client Requirement's: Look and feel (Summary page)
  - What is your reason for the choices?
  - 4 species of timber: what are they and which did you choose? And which, where and why?
  - Colours: what is your reason for the choices? Interior Design in preference to Interior Decoration please.
  - What is the significance of Orange? Why did you choose it?
  - The blocks of colour represent how to use colour floor materials plans (but neatly following the shape of the areas)
  - The images and the words could be better arranged: 2 images next to flow are not about flow
- Material Board:
  - Consider the layout: floor at bottom of page, furniture and walls at middle, ceilings and lights at top?
  - Consider materials with direction or shape could be presented realistically rather than oval?
  - Where is the ceiling or soffit and lights, etc.
  - Materials in soft-focus could be anything, leather has a specific texture, not shown
  - Numbering of text is okay numbering of images is clumsy by comparison
  - Plants?
- Material Evaluation:
  - Continuity of numbers is good
  - Rationalize your information, many items are in the wrong sub-groups
  - Recheck your grammar in a spell/grammar checker
  - Consider organizing each block to:
    - Description, Material, Finishes, Applications, Properties, Features, Benefits, Aesthetics, Reasons
    - Now does any of this relate to the client requirements?
  - Where is: natural, flow, colour, curvature? from mood board

- Where is Biophilia? Could be a reason for choosing?
- Many statements are questionable: just a few follow here:
  - Tongued and grooved is not smooth, it has a groove, a dirt trap, so may not be easy to clean
  - Polypropylene is a non-renewable petrochemical virgin material, not natural, short 5 year life, not repairable, 100 recyclable but is it recycled by the manufacturer? (sustainable is doubtful)
  - Corrosion resistance is irrelevant in internal controlled conditions
  - Concrete is not (thermally) insulating but might have acoustic separation properties
  - Cost effective flooring but expensive leather (is one to pay for the other?)
  - Glass is transparent and clear (same thing) but under 2 sub-headings
- Internal View and Scenes “Renders”
  - Place numbers on plans and show direction of view
  - If your numbers are in boxes in one, use numbers in boxes on other?
  - You have already used numbers in boxes to mean materials, risk of confusion? Consider alternative.
  - Hand drawn numbers on plans is not great graphically, looks like an after thought
  - Wall washing lights are not illuminating anything (but might be for plants that cannot see any daylight)
  - Hand written captions could be neater, why add CAD? its all been generated in CAD
  - Each image could have a title (function or space name) and few notes to explain what is in them
  - 4 is a multi-functional space that could show other furniture layouts
  - Are bluetooth keyboard and mouse practical?
    - Theft could be an issue, £100/mouse could get expensive
    - Are these part of the rental scheme? If so be explicit.
  - 9 suggests you are removing all existing lights, covering the existing thermal mass soffit, adding suspended ceiling, with no lights so all areas need task lighting
  - What is the space depicted in 10? Could show timber direction on floor
  - There is no obvious secure line at entrance
- Reflected ceiling plans:
  - There is a legend: but none show on plan
  - Showing ceiling access panels (as show in Renders) but no lights
  - Lighting if any, needs to respond to the furniture layouts (or show more task lighting in renders)
  - Large areas without lights will be dark and uninviting
  - Needs to show partitions, bulkheads and ceilings, atrium, and entrance hall openings
  - Need furniture and partition layouts near by for reference (or furniture layout ghosting)
- Elevations & Sections:
  - Scale is unhelpful, too small
  - Unreadable use heavier line weights to make readable (scan may have been better)
  - Sectional elevations would be more helpful
  - Handwriting looks like last minute additions
  - Section line indicators do not follow convention
  - Sections could have show the context in full (other floors above and below)
- Isometrics
  - These are not Isometric, nor axonometric
  - These could have been shown from the exact same geometry
  - One looks very wide (because of inconsistent geometry)
  - Two views at this scale does not offer much more than one view
  - Dark brown wood is now red-brown
- Technology
  - Metaphor is not about technology, and the statement down not ring true to me
  - Top left view suggests lots of ceiling lights, top right plan suggests few ceiling lights and unrelated to layout of top left view
  - Lights covering ‘vast areas’ run risk of lateral glare, not good in a flat glass monitor area
  - Light sources might be selected to work psychologically with functions and activity of spaces?
- Specification (page not named) (Schedule of furniture/Bill of Quantities/Pricing schedule)
  - Heading towards but not quite a Specification
  - Information could be rationalized a bit more and be consistent so comparable
  - URLs is helpful (better if this had been a PDF with hyperlinks)
  - Do the numbers correlate to page 5 schedule or the Summary?
  - Manufacturers marketing text does not belong in a specification
  - Light bulb excluded would not apply when installed, I hope
  - If the light bulb is excluded then you need to add the light bulbs as items in your schedule
- Public feedback & Resolution
  - Rather than read the feedback and see how the presentation could be improved:
    - Your reaction feels like ‘you are wrong, I have done it, can’t you see, you did not look’
    - The clue is in ‘Resolution’
    - Your client may not be impressed with your response and not continue the commission
  - Take these comments as a hint that you have failed to communicate
    - Review your sequence of pages as noted previously
    - Improve the page content, complete plans to add the missing information

- Add notes or diagrams to explain your intent better
- Summary
  - This belongs at the beginning not at the end
  - Then it could have reminded you to engage with some of its points (or at least communicate it)
  - Conclusions could have been what number or % improvements were made over client's brief
- Bibliography
  - Good that this is included but...
  - Feint and almost unreadable but almost useless,
    - make it easier for the reader not harder
  - Distinguish between images and website pages?
- Conclusion:
  - There is a lot of work here showing you are capable
  - You may or may not have engaged with the clients requirements
  - You have not communicated it clearly or explicitly
  - You have listed many facilities but they do not appear on the plans or details
  - So I have to assume you have not
  - If the client is going to pay for all this they want to be sure they are getting all they asked for.

## Materials

- Plywood
  - Properties
  - Dimensional Stability: comes from the two direction layers and glues resisting moisture movement
  - Structural stability: comes from the geometry of the assembly and the method of jointing
  - Flexibility in plywood comes from using thinner layers of plywood, thinner veneers plays no part
  - Fire performance: wood will burn but has a charring defense mechanism, plywood will resist burning on the surface but is still vulnerable on the edges, improvement can be achieved by adding fire resistant mineral salts as a powder or as a liquid treatment during manufacture or applying surface treatments.
  - Fire resistance: Adding plasterboard or cementitious boards to a construction adds fire resistance, but does not change the performance of the plywood.
  - Thermal insulation: timber is a better insulator than steel or concrete, but is not regarded as an insulating material, it does have thermal resistivity and thickness so will add to the total U value of an assembly
  - Chemical resistance: timber is absorbent and the right chemicals will destroy cellulose. I am not aware of chemical resistant plywood.
  - Cement particle boards are more resistance to absorbency and offers some chemical resistance, but cement can be destroyed by some chemicals
  - Moisture resistance: Is achieved by choice of durable species, durable adhesives, preservative treatments or surface treatments, e.g. marine grade plywood, all of which makes the plywood more expensive
  - Do not mix chemical resistance and durability in respect of plywood
  - Impact resistance: large surface areas of interlocking jointed, well supported and secured boards will offer impact resistance. Edges are vulnerable. Floors and concrete formwork are subject to bending and shear stresses. Bending stresses are a combination of compression and tension. Plywood offers bending resistance in two directions due to grain running at right angles between layers. Therefore plywood has more tensile strength than timber, which is easier to pull apart along one directional grain.
  - Structural overloading: All structures are designed with a safety factor of 2 or 3, material used in the structure must not be put under greater stress or strain.
- Plywood Pros
  - Plywood is more expensive than chipboard and OSB; so more economical than what?
  - Plywood does not use bark and sapwood (less durable than heartwood)
  - Plywood outermost layers can be selected veneer for better appearance (or not)
- Plywood cons
  - Surface finish of plywood is regular and usually sanded, its appearance is specifiable
  - Edges are vulnerable to damage if badly handled and stored
  - Visible flaws or lack of them is entirely specifiable
  - All timber can generate splinters, damage during handling and storage can lead to splintering, edge profile and texturing can reduce it.
  - Termites can affect any timber, by boring holes into the timber making it less strong against bending and shear stress. More durable choices of timber or plywood or treatment can offer resistance, termite resistant construction is best defense against termites.
  - All softwood can give off VOCs, adhesives can give off VOCs, surface treatments and coatings can give off VOCs. VOCs can have greater effect than just irritating the eyes.
  - Legislation is driving down VOCs in paints
  - More low VOC materials are becoming available in the market
- Types of Plywood: Hardwood and Softwood
  - Hardwood derived from tropical forests in tropical climates are usually more durable species
  - Durable hardwoods species and durable adhesive make durable plywood
  - Meranti and Lauan are durable species that may be used in durable plywood (not tropical plywood)

- Air pollution:
  - Seasoning wood releases water as vapour, it is not normally regarded as a pollution
  - Burning hydrocarbons (fossil fuels) releases carbon to the atmosphere (climate change potential)
  - Inadequate temperature burning can also release polluting particulates (in smoke)
  - Uncontrolled use of treatment or finishing chemicals can lead to pollution of air, land and water, flora and fauna and humans
  - Recycling and cleaning of water can reduce risk of wider water pollution
  - Noise pollution comes from many of the timber processing stages
- Deforestation:
  - Deforestation is about extracting timber, plywood is just one of the applications
  - Clear felling of forest without replantation with more trees
  - Replantation with other crops (e.g. oil palms, coffee, society destroying drugs) or for animal grazing
  - Desertification where an arid climate may take over stopping all growth
- Soil erosion
  - Topsoil erosion by rainwater runoff without forest trees, ground cover plant roots, and decomposing mulch stabilizing the soil
  - Giant leaps are being made here in the statements
- Carbon footprint & Disposal
  - Timber sequesters carbon from the atmosphere so has carbon negative footprint (a big good thing)
  - Harvesting, processing and making timber stuff has a carbon impact, (a small bad thing)
  - The more processes the timber goes through the bigger the bad thing gets (chipboard being the worst)
  - Processing of timber is insufficient to turn the carbon negative footprint to a carbon positive footprint
  - Plywood does not have a short shelf life
  - Timber and plywood have a long shelf life if stored in the right conditions.
  - Timber and plywood when used in buildings have the long life in the building (Normal 60 years)
  - Designers give materials a short life by demolition of interiors at short intervals (7 years is 'normal')
  - Designers give materials a short life by bad detailing leading to all manner of failures
  - Methods of assembly and connectivity enable or prevent reuse due to damage in demolition instead of deconstruction for reuse.
  - Plywood is strong and can be reused
  - Plywood with adhesives and durable species will not decompose easily
  - Timber preservative will prevent composting
  - Timber without treatments may compost down if conditions are right
  - Timber with treatments should not be incinerated releasing toxic pollutants to atmosphere
  - Burning timber appears to be carbon neutral but due to the processing impacts above burning will always be net carbon positive
  - Burning of any resource reduces it to ash or pollutants and cannot be useful in a second life
  - Reusing or recycling gives the resource a second life.
- Recycling of timber and plywood
  - Reusing of timber and plywood by resourceful people is common place
  - Reusing of timber and plywood is not common place by designers who do not think resourcefully
  - Removal of surface finishes reveals good wood that can be reused
  - Design of better methods of assembly enable disassembly and reuse
  - Recycling happens if materials can be segregated unpolluted by other materials
  - BAMB.eu addresses Buildings as Material Banks

#### Case study

- Shinola pavilion
  - Spelling: Lightning Bolts
  - Durability: what quality of plywood is suitable here? With end grain exposed?
  - Black paint: what paint quality is suitable here? Paint short life 3 - 5 years in timber externally makes this a short life or high maintenance façade of a building that should be normal life 60 years.
  - Demountability is demonstrated here, but for storage? What happens to the solar shading when it is stored? Stored over winter?
- Landesgartenschau Exhibition by University of Stuttgart
  - Repetitive text
  - What have you learned from this to apply to your own design?
  - How is it all connected
  - What shape are the off cuts and what pattern is the parquet floor?
- Fire shelter
  - How does nomadic people methods of construction influence the design?
  - How does polycarbonate (a fuel in a fire) contribute to a fire shelter?
  - How does plywood (a fuel in a fire) contribute to a fire shelter?
  - How is this construction Fire resistant?
  - Oh! the fire is inside not outside
  - Does the fire burn through the plywood base?
  - What building materials are found on site in the middle of a forest? Timber Soil
- Toranoko Nursery

- Is there plywood in this construction? Show it?
- Do the occupants get over exposure by sunlight through the glass walls
- Does the roof offer solar shading?
- Colour contrasts between directional piece of timber at exposed face accentuate the roof shape
- Puukuokka by OOPEAA
  - Which country?
  - CLT is not Plywood. Where is Plywood in construction? Show it?
  - Amazing plan referred to, is not shown.

#### Comparative Qualities: Timber v Plywood

- Comparisons are not always comparing the same quality
- Statements do not always make sense or explain themselves
- Can be used at 'any stage of wood' = 'any stage of production'?
- 'After tree has been down' = 'After tree is felled'?
- Plywood is know as plywood (may have been known as veneers historically), layers are leaf, outer leaf may be veneers, veneers may be hardwood, softwood, plastic laminate or even metal
- Timber is dimensionally unstable subject to moisture movement, plywood is less so
- Plywood is strong in two directions timber is strong in one direction
- A big piece of timber can be as strong as a small piece of ply

#### Design Process:

- No commentary on the design process
- Illustrations are not described and nothing can be learned

Brian Murphy GBE Green Building Encyclopaedia

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