**Information**
In accordance with Monash **policy**, no grade is final until confirmed by the Board of Examiners.

# User report - Jason Ching Yuen Siu

Overview report | User report

| Grade item | Grade | Range | Feedback |
|---|---|---|---|
| **FIT3158 Business decision modelling - S2 2022** | | | |
| Assignment 1: Spreadsheet Modelling (Weight 30%) | 21.16 (D) | 0–30 | |

| Case I | | | | |
|---|---|---|---|---|
| Spreadsheet | Content | Marking Criteria | Mark | Feedback |
| Title Page/Sheet | Title and brief description of case. | Title and clear description in summary. | 1.5 | Case description can be improved with more specific information. |
| | Group contribution. | Clear contributions. | 2 | |
| Model Sheet | Mathematical formulation. | Clear definition of decision variables. Correct volume and weight constraints. Correct demand | 0 | Not evident. The decision variables can clearly be defined of the form Cij where i could refer to cargo type and j could refer to |

Grade item | Grade | Range | Feedback

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| | | | | | balance constraints. Correct objective function. | | hold. The constraints and objective could then be expressed based on the defined decision variables. |
| | | | | Model Implementation | Clear and accurate representation with appropriate functionality implemented for;<br>- Decision variables<br>- Constraints<br>- Objective<br>Correct settings included in solver. | 9 | The delay can be incorporated on to profit values prior to calculating the objective. |
| | | | | Goals and guidelines for good spreadsheet design. | The model should be robust and produce accurate and reliable output consistently while enabling modifiability and auditability. | 7 | The delay can be incorporated on to profit values prior to calculating the objective in improving readability and modifiability. Colours can be used to better distinguish decision variables, objective and constraint cells. Balance constraint values such as 15% can be given a place in a cell |
| **Grade item** | **Grade** | **Range** | **Feedback** | | | | instead of directly inside |

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| | | | | | | formulas. |
| | | | Sensitivity and Answer Report Sheets | Sensitivity and Answer Reports. | Reports generated from Excel Solver are representative, meaningful, and actionable. | 5 | |
| | | | Section B Report | B1 | Correct optimal amounts of cargo and total profit. | 1 | The final profit value also needs to be represented. |
| | | | | B2 | Correct response for alternate solutions with justification. | 2 | |
| | | | | B3 | Correct response for degeneracy with justification. | 2 | |
| | | | | B4 | Correct response for demand requirement and marginal values. | 1 | Marginal values can be given as the relevant shadow price values. |
| | | | | B5 | Correct response based on sensitivity report objective coefficients. | 0.5 | These can be compared separately as well as effect of multiple changes discussed. |
| | | | | B6 | Correct response using sensitivity report and considering multiple changes in profit coefficients. | 0.5 | Need to discuss based on multiple changes and allowable decrease for objective coefficients in the sensitivity report. |
| **Grade item** | **Grade** | **Range** | **Feedback** | | | | The delay can be |

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| | | | | | | be incorporated on to unit profit values prior to objective calculation in the model. |
| | | | | B7 | Correct response based on sensitivity report constraints section. | 2 | |
| | | | | B8 | Correct response based on sensitivity report constraints section. | 2 | |
| | | | | B9 | Correct response based on sensitivity report constraints section. | 0.5 | Allowable decrease needs to be considered as the effect of carrying extra weight reduces the weight amount available to carry required cargo. |
| | | | | B10 | Correct response considering sensitivity report with reasonable interpretation and discussion. | 1 | More explanation can be given considering output of sensitivity report. Both min and max limits as relevant to constraint can be analysed. |
| | | | | | Sub Total for Case I (60) | 37 | |
| **Grade item** | **Grade** | **Range** | **Feedback** | | | | |

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| | | Case II | | | | |
| | | Spreadsheet | Content | Marking Criteria | Mark | Feedback |
| | | Title Page/Sheet | Title and brief description of case. | Title and clear description in summary. | 2 | |
| | | | Group contribution. | Clear contributions. | 2 | |
| | | | Network Flow Diagram. | Clear and complete network flow diagram.<br>- Correct representation of nodes.<br>- Correct representation of flows<br>- Correct supply/demand values at nodes<br>- Correct cost and upper bounds on flows. | 5 | The upper bounds for each flow should have been indicated. The unit costs should be different in order to be correct. |
| | | Model sheet | Model Implementation | Correct implementation of model considering goals and guidelines for good spreadsheet design.<br>- Correct representation of nodes<br>- Correct supply/demand values used at nodes<br>- Correct representation of flows<br>- Correct cost values used as applicable | 11 | The upper bounds for most of the flows have to be corrected. The optimal cost has to be different in order to be correct. |
| **Grade item** | **Grade Range** | **Feedback** | | - Correct flow bounds used | | |

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| | | | | as applicable<br>- Correct modelling of net-flow values in constraints<br>- Correct representation of objective | | |
| | | | Solver Settings | Correct solver setup for decision variables and objective. Correct constraints. | 2 | |
| | | Report/Summary Sheet | Model Output | Accurate summary of model output.<br>- Correct decision variables (shipped number of crates) and objective (total cost) values presented in a readable manner. | 2 | |
| | | | | Sub Total for Case II (30) | 24 | |
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| | | Case III | | | | |
| | | Spreadsheet Content | | Marking Criteria | Mark | Feedback |
| | | Question 01 | | Correct interpretation of costs;<br>- Fixed cost per order (K)<br>- Annual Holding Cost per item (ch) | 2 | annual holding cost should be 1600 * 12 months. |
| | | | | Correct calculation of optimal class size considering | 1 | |
| **Grade item** | **Grade Range** | **Feedback** | | | | |

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| | | | | annual demand (Q*) | | |
| | | | Question 02 | Correct number of classes | 1 | consequential mark due to incorrect annual holding cost |
| | | | | Correct calculation of total annual relevant cost summing below components.<br>- Annual ordering cost.<br>- Annual holding cost. | 3 | |
| | | | Question 03 | Correct costs with rounding down. | 2 | |
| | | | | Correct costs with rounding up. | 2 | |
| | | | Question 04 | Correct EOQ and total cost calculations for increased demand. | 3 | |
| | | | | Correct EOQ and total cost calculations for decreased demand. | 3 | |
| | | | Question 05 | Correct form and use of data table. | 0 | no evidence of use of data table. |
| | | | | Correct values in data table. | 2 | |
| | | | Question 06 | Correct interpretation of costs with Penalty for shortage. | 1 | only the fixed cost per order is correct. |
| **Grade item** | **Grade** | **Range** | **Feedback** | Correct | 1 | should have |

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| | | calculations for below components;<br>- Optimal class size<br>- Number of classes<br>- Total annual relevant cost | | presented only one set of computation that you were sure. |
| | | Sub Total for Case III (30) | 21 | |

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| Quiz Week 6 | 1.00 | 0–1 |
| Quiz Week 2 | 0.80 | 0–1 |
| Quiz Week 3 | 0.90 | 0–1 |
| Quiz Week 4 | 0.70 | 0–1 |
| Quiz Week 5 | 1.00 | 0–1 |
| Quiz Week 7 | 0.60 | 0–1 |
| Quiz Week 8 | 0.30 | 0–1 |
| Quiz Week 9 | 0.65 | 0–1 |
| Quiz Week 10 | 1.00 | 0–1 |
| Quiz Weeks 11 and 12 | 0.40 | 0–1 |