

Structures simulation plan grading sheet 2020

The table below is the grading rubrics used for the simulation plan for the AE3212-II SVV Structural Analysis assignment. The grade for the simulation plan is calculated by dividing the weighted average of the categories listed in the table below by 10. The partial weight of each category is given in the table.

Please note, that partial grades per category can be given as well, as it can happen that for a given category a simulation plan is best described by recombining the descriptions listed in two or more columns. Should this happen, a grade will be given that is the average between the columns, e.g. if the report fits both column 70 and column 80 for a given category, the resulting partial score will be 75.

Please note, that due to the digital implementation of the grading rubrics only the following partial grades can be issued per category: 0, 20, 40, 50, 60, 65, 70, 75, 80, 90, 100.

	0	40	60	70	80	100
Report Overview 5%		Report is not structured Many incorrect sentences Task division missing	Structure sufficient Several spelling and grammatical errors Task division present, but needs revision	Good structure Minor spelling and grammatical errors Clear task division present	Good structure and layout, references included Few spelling and grammatical errors Very clear task division present	Very good structure and layout, textbook style, including referencing No spelling and grammatical errors Exemplary task division present
General Part 10%	Problem not introduced Output and input variables not listed No reference frame defined No free body diagram is present	Introduction of problem unclear and/or has mistakes Output, input variables and their units not completely or wrongly listed Not all used reference frames are defined Free body diagram contains major mistakes and/or is hard to read	Introduction of problem sufficiently clear, but with mistakes Most output, input variables and their units correctly listed Reference frames present, but with mistakes or ambiguously defined Free body diagram contains mistakes	Introduction of problem more than sufficient All output, input variables and their units correctly listed Reference frames more than sufficient, but with small mistakes Free body diagram contains small mistakes and/or is inconsistent with text	Good introduction of problem All output, input variables and their units correctly and clearly listed Reference frames good Free body diagram contains no mistakes	Very good and concise introduction of problem, as in a textbook All output, input variables and their units correctly and very clearly listed Reference frames very good, and consistent with the text. Free body diagram is easy to read and contains no mistakes
Flow Chart 5%	No flow chart of proposed code present	Missing important parts of the proposed code No linked variables are given No input or output variables given Parts are unreadable	Containing most important code blocks Many links and corresponding variables are missing Missing important input and output parameters Parts are difficult to read	Contains all important code blocks Some links and corresponding variables are missing Missing some input and output parameters Most parts are easy to read, no parts are difficult to read	Contains all code blocks All links and corresponding variables present, flow between blocks is logical but not always consistent with text Contains all input and output variables All parts are easy to read	Contains all code blocks Flow and linked variables between blocks is logical and is consistent with text Contains all input and output variables All parts are very easy to read Can be used by outsider to develop the algorithm
Verification Model 10%	Description of method missing	Description of method partly missing or contains fundamental mistakes Missing all main assumptions made by verification model or wrong assumptions mentioned	Small parts of the method contain small mistakes and no or wrong motivation for why this is a good model to verify the numerical model A few main assumptions made by verification model identified	Description of method correct and some motivation is given why this is a good model to verify the numerical model Most main assumptions made by verification model identified	Clear, complete description of the method and good motivation for why this is a good model to verify the numerical model Main assumptions made by verification model identified	Clear, concise, unambiguous description of the method, and motivation as in textbook for why this is a good model to verify the numerical model All assumptions made in verification model correctly identified

Numerical Model 25%	Assumptions and effects missing	Missing all main assumptions or wrong assumptions mentioned	A few main assumptions are given	Most main assumptions are given	Main assumptions are complete	Assumptions show creativity beyond what can be expected
		Effects of assumptions are not described	Effects of assumptions is included for some assumptions and/or often flawed motivation for effects	Effects of assumptions is included for most assumptions and/or some lapses in motivation for effects	Effects of assumption is included for all assumptions and nearly always sound motivation for effects	Effect on results and motivation show creativity beyond what can be expected
		Validity of assumptions is not justified	Justification of validity of assumption is included for some assumptions and/or often flawed	Justification of validity of assumption is included for most assumptions and/or some lapses in justification	Justification of validity of assumption is included for all assumptions and is nearly always sound	Justification of validity of assumptions shows creativity beyond what can be expected
	Structural model missing	Structural model contains fundamental mistakes and/or is incomplete and/or motivation is incomplete	Structural model contains some mistakes and/or missing some motivation	Structural model contains only minor mistakes, motivation is more than sufficient	Structural model contains no mistakes and with good motivation	Structural model contains no mistakes, is coherent with very good motivation, as in a textbook.
	Numerical methods not specified	Numerical methods contain fundamental mistakes and/or are incomplete and/or motivation is incomplete	Numerical methods contain some mistakes and/or missing some motivation	Numerical methods contain only minor mistakes, motivation more than sufficient	Numerical methods contain no mistakes and with good motivation	Numerical methods contain no mistakes, is coherent with very good motivation, as in a textbook. Structural model and/or numerical method is tailored to reach high accuracy.
Verification 30%	No unit tests	One unit test given, or several unspecific unit tests given	Several specific unit tests proposed, but with mistakes and/or with little diversity	Several specific unit tests proposed with no mistakes and sufficient diversity	Several specific unit tests are proposed with no mistakes and more than sufficient diversity, and are well described	Proposed unit tests good, creativity shown in finding tests
	No larger (system) tests	Proposed larger (system) test not specific or not complete	Proposed larger (system) test relevant but with mistakes	Multiple relevant larger (system) tests proposed	Multiple relevant larger (system) tests proposed and well described	Multiple relevant larger (system) tests proposed, creativity shown in designing tests
	No description of the accuracy of the tests	Accuracy of at least one test given	Accuracy of tests given, but with mistakes	Accuracy of tests given with some motivation	Accuracy of tests given and motivated	Accuracy of tests given and motivated as in a textbook
	No discussion of the coverage of the tests, and tests do not cover entire model	Tests only compare numerical and verification model with each other	Tests cover only small parts of the model	Tests cover significant parts of the model	The model is covered completely	Effort is shown to demonstrate that the tests cover the model entirely
	No plan for addressing discrepancies					
Validation 15%	Proposed validation tests missing	Proposed validation tests contain mistakes and/or not clearly defined and/or incomplete	Proposed validation tests sufficient, but with minor errors or missing description, inefficient use of validation data	Proposed validation tests more than sufficient, room for improvement in efficiency of use of validation data	Proposed validation tests good, well described. Validation data is efficiently used	Proposed validation tests good, creativity shown, very well described. Validation data is optimally used
	No plan for assessing/addressing potential discrepancies	Insufficient plan for assessing/addressing discrepancies	Plan for assessing/addressing discrepancies but some mistakes	Sufficient plan for assessing/addressing discrepancies. Effort is made to relate it to assumptions and data	Good plan for assessing/addressing discrepancies that is related to assumptions and data	Plan for assessing/addressing discrepancies is consistent with description of assumptions and their effects, and the validation data