



# Virtual City Rubric

<b>0</b> <b>No Points</b> Requirements missing.	<b>1</b> <b>Poor</b> Poor–Fair quality. Fulfills less than 50% of requirements.	<b>2</b> <b>Good</b> Average-Above average quality. Fulfills at least 85% of requirements.	<b>3</b> <b>Excellent</b> Excellent quality. Fulfills 100% of requirements with additional distinctive features.
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<b>I. Specs (15 points)</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>1. Presentation quality</b> • Spelling and grammar	Errors throughout.	Some errors.	Very few errors.	No errors.
<b>2. Followed template</b> • Slide count didn't exceed 28 • Benchmarks complete • At least 2 measurable goals • Same city throughout	Didn't follow template.	Followed the template. Either missing some screenshots and much of required information or not using the same city throughout.	Followed the template. Missing some of the screen shots or required information. Same city throughout.	Adheres to template and all requirements for assessments and goals. Same city throughout.
<b>3. Screen shots</b> • Screen shots showing zoning, budget details, and population details • Bird's-eye shots are from a consistent point/orientation in all three phases • Screenshots for each phase are taken at same point in time	No or few screen shots.	Most of required screen shots, but not consistent orientation or time point.	All the required screen shots. Consistent orientation and time.	All required screen shots. Consistent orientation and time. Includes additional shots and detail to illustrate important points.
<b>4. Three reporting stages</b> • Virtual city assessment (benchmarks) and reporting at three points • Each point exhibiting enough development to show progress (as per suggested ranges in template)	Less than 2 reporting phases.	Less than three reporting phases.	Three reporting phases. With some progress between phases.	Three reporting phases showing excellent progress between each.
<b>5. Goals</b> • Goals are significant to a well-designed, well-operated city • Goals are challenging • Goals are measurable	No goals.	1-2 goals. Not significant or measureable or challenging.	Good selection of meaningful goals that are measurable and somewhat challenging.	Excellent selection of significant and challenging goals.
<b>II. Test It, Improve It (15 points)</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>6. Benchmark status</b> • Accurate and fair assessment of features in city in each of three phases	No or inaccurate assessments.	1-2 assessments that are relatively accurate.	Benchmark assessment at each phase. Relatively accurate and unbiased.	Benchmark assessment at each phase. Extremely accurate and unbiased review of city development.



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II. Test It, Improve It (15 points) (Continued)	0	1	2	3
<b>7. Progress toward achieving stated goals</b> <ul style="list-style-type: none"> <li>For each reporting phase, city should show steady progress toward achieving stated goals</li> <li>Actually achieving goals is not required</li> </ul>	No report on progress toward achieving goals.	1-2 reports on progress toward goals. Not much advancement toward goals.	Reports on goal progress for each phase. Good advancement, but could be better or more consistent.	Reports on goal progress for each phase. Excellent and consistent advancement throughout simulation.
<b>8. Refine strategies</b> <ul style="list-style-type: none"> <li>Using results of assessment, develop plans to make progress toward goals in the next phase(s) of the simulation</li> </ul>	Plans not addressed.	Plans are unrelated to goals.	Plans for next phase development address most goals.	Detailed plans for next phase development address all goals.
<b>9. Implement design changes and continue testing</b> <ul style="list-style-type: none"> <li>Adjust or change the virtual city as planned to further goal progress</li> <li>Test changes with the simulation</li> </ul>	No changes to virtual city to further goal progress.	A few changes added to further goal progress. Not much testing of changes.	Some planned changes were added to the simulation.	All planned changes were added to the simulated city. Thoroughly tested for effectiveness.
<b>10. Results of design changes</b> <ul style="list-style-type: none"> <li>Report on the results of the changes following the simulation testing               <ul style="list-style-type: none"> <li>How successful was the plan</li> <li>Are additional changes or refinements needed or a different response required</li> </ul> </li> </ul>	No report on results.	Brief report on the results of changes. No analysis.	Good analysis and report on results of implementation of the planned changes.	Excellent analysis and report on results of implementation of the planned changes and any follow-up refinements.
III. Conclusion (9 points)	0	1	2	3
<b>11. Learning outcomes</b> <ul style="list-style-type: none"> <li>Reporting lessons learned about city design and development</li> </ul>	No lessons reported about city design.	Brief summary of lessons learned about city design.	Good summary of lessons learned from the simulation process.	Excellent summary of lessons learned from the simulation process.
<b>12. Understanding of the role of simulation in the engineering process</b> <ul style="list-style-type: none"> <li>Lessons learned about the engineering design process – design, test, refine – resulting from the simulation</li> </ul>	No lessons learned about engineering design process.	Brief summary of lessons learned about the engineering design process.	Good summary of lessons learned about the engineering design process.	Excellent summary of lessons learned about the engineering design process.
<b>13. Applying lessons learned to the rest of the FC project</b> <ul style="list-style-type: none"> <li>Effective use of the simulation to test city design and development decisions</li> </ul>	No description.	Brief description of how team plans to use simulation results in the rest of the project	Good description of how team plans to use simulation results in the rest of the project	Excellent description of how team plans to use simulation results in the rest of the project.

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IV. Judge Assessment of Design & Process (15 points)	0	1	2	3
<b>14. City design</b> <ul style="list-style-type: none"> <li>Well-designed, vital city with residential, commercial and industrial zone development</li> <li>Necessary city services (health, safety, education, transit) and utilities (relative to the maturity of the city)</li> <li>Amenities and improvements contributing to quality of life</li> <li>Strong budget and population</li> </ul>	Poorly designed or developed city.	City design is fairly good, but immature or underdeveloped. Missing some key services. Few amenities.	Good city design, layout of zones and necessary city services. Could have more advanced services and amenities. Good budget management.	Excellent city design and layout of zones. All necessary city services with advanced features and amenities appropriate to city maturity. Strong budget.
<b>15. Proposed responses and design refinements (good decisions given the data)</b> <ul style="list-style-type: none"> <li>Reasonableness of response to goal assessment and problem analysis</li> <li>Planned responses are implementable within constraints of design/simulation</li> </ul>	Proposed responses not reasonable or implementable.	Proposed responses were partially reasonable and/or hard to implement in the simulation.	Proposed responses were somewhat reasonable. Implementable in simulation.	Proposed responses were reasonable and implementable.
<b>16. Effectiveness of corrective actions</b> <ul style="list-style-type: none"> <li>How effective were the design changes/refinements in advancing toward the goal</li> </ul>	No or ineffective corrective actions.	Design refinements minimally effective. Could have been much better.	Design refinements somewhat effective.	Design refinements highly effective.
<b>17. Got it: design-test-refine process</b> <ul style="list-style-type: none"> <li>The team appeared to be learning from their actions</li> </ul>	No evidence of understanding the process.	Some evidence of understanding the process.	Good understanding of the process. Team learning and adapting to simulation and testing.	Excellent understanding of the process. Team learning and adapting to simulation and testing.
<b>18. Got it: city design and development</b> <ul style="list-style-type: none"> <li>Conclusions about city design are significant and appropriate based on information given</li> <li>Conclusions are thorough</li> </ul>	No significant or appropriate conclusions.	1-2 somewhat significant conclusions.	Conclusions are significant, but missed some important areas.	Excellent, thorough list of significant, appropriate conclusions.