

Appendix: Deliverables City Essay 0 No Points Requirements missing.

PoorPoor–Fair quality.
Fulfills less than 50% of requirements.

2 GoodAverage-Above average quality.
Fulfills at least 85% of requirements.

3 Excellent Excellent quality. Fulfills 100% of requirements with additional distinctive features.

I. Introduce City and Define the Problem (15 points)	0	1	2	3
1. City overview Basic city information: population, age, location Climate and/or natural features City economy	No description of city.	Brief description of city.	Good description of the city.	Detailed description of city.
Infrastructure Types of infrastructure could include: housing, transportation, energy, pollution control or others.	No description of city infrastructure.	Brief description of one type of city infrastructure.	Good description of two different types of infrastructure.	Detailed description of two or more types of infrastructure.
3. City services • Types of city services could include: education, healthcare, fire or police protection, elder services, etc.	No description of city services.	Brief description of one type of city service.	Good description of two different types of city services.	Detailed description of two or more types of city services.
4. City innovations & futuristic elements	No description of innovation and what makes it futuristic.	Brief description of innovations and what makes it futuristic.	Good description of innovations and what makes it futuristic.	Detailed description of innovations and what makes it futuristic.
5. Describes the age related problems in 2017 • Identify problems in general, describe problem areas	No description of any present-day challenges.	Brief description of present-day challenges.	Good description of present-day challenges.	Detailed description of present-day challenges.
II. Specs and Solution (21 Points)	0	1	2	3
6. Describes the selected problem One problem selected (i.e., housing, transportation, health, other) Why problem is important to solve Description of impact on citizens Importance to city to address	No description of challenge city addressed.	Brief description of problem city decided to address. Touched on problem's impact, why important.	Good description of problem city addressed. Clearly states impact on seniors and why important.	Excellent description of problem city addressed. Thoroughly details impact on seniors and why important.
7. Describes two innovative, futuristic & engineered solutions	No description.	Brief description of only one solution or describes two solutions but lacks details on how innovative or futuristic.	Good description. Clearly outlines two solutions and how they are innovative and futuristic.	Excellent description. Thoroughly describes two solutions and how they are innovative and futuristic.



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City Essay Rubric

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II. Specs and Solution (21 Points) (Continued)	0	1	2	3
8. Discusses the impact on senior population • Ability to remain active and independent	No discussion.	Brief discussion of impact. Few details on how seniors' ability to be active and independent improved.	Good discussion on impact. Provides some details on how seniors' ability to be active and independent improved.	Excellent discussion on impact. Provides many details on how seniors' ability to be active and independent improved.
9. Discusses futuristic technology involved in solution	No discussion of technology.	Some discussion of technology involved.	Good discussion of technology involved.	Excellent discussion of technology involved.
10. Describes risks and tradeoffs of solutions	No discussion of risks or tradeoffs.	Briefly describes one risk and/or tradeoff.	Good description of one risk, how it was reduced, and one tradeoff or compromise.	Excellent description of two risks, how they were reduced, and two tradeoffs or compromises.
11. Describes solutions' benefits to citizens • Other citizens (not just seniors) • Enhances quality of life in general	No description of how solutions benefit other citizens and/or enhance quality of life.	Short description of how solutions benefit other citizens and/or enhance quality of life.	Good description with two examples of how the solutions benefit other citizens and/ or enhance quality of life.	Excellent description with three or more examples of how solutions benefit other citizens and/ or enhance quality of life.
12. Engineering disciplines involved and role of 1-2 engineers	Engineering disciplines are not identified.	Discusses one engineering discipline or role of one engineer.	Discusses more than one engineering discipline and role of engineers.	Good discussion of more than one engineering disciplines and roles of the engineers.
III. Judge Assessment Of Solution (12 points)	0	1	2	3
13. Effectiveness and quality of solution Effective solutions to stated problems Clever design and application of technology Ability to remain active and independent	Not effective.	Solution is some- what effective, technology and design can be better, with fair impact on seniors' ability to remain active and inde- pendent.	Solution is effective, but technology and design could be improved, with good impact on seniors' ability to remain active and independent.	Solution is highly effective, with excellent technology application, with high impact on seniors' ability to remain active and independent.

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III. Judge Assessment Of Solution (12 points) (Continued)	0	1	2	3
14. Innovative and futuristic solution Reasonable extrapolation and application of technology Degree to which solution involves engineering	Not innovative or original.	Somewhat original or innovative. Not futuristic. Little engineering involved.	Solution is innovative, original and somewhat futuristic. Some engineering involved.	Solution is highly innovative, original and futuristic. Extensive engineering involved.
15. Plausibility of solutionBased on sound scientific principles	Implausible or not scientifically sound.	Solution is not very plausible (science fiction).	Solution is somewhat plausible.	Solution is highly plausible and scientifically sound.
16. Tradeoffs & compromises Accounting for risks and tradeoffs Assessing consequences and making logical decisions	Does not explore tradeoffs.	Some consideration of risks and tradeoffs, but ignores major issues.	Adequate assessment of risks and tradeoffs. Analysis and decisions could be better.	Excellent assessment of risk and tradeoffs in decision-making process.
IV. Writing Skills (12 Points)	0	1	2	3
17. Organization	Poorly organized.	Fair organization.	Good organization.	
18. Writing skills	Poor writing.	Fair writing.	Good writing.	
19. Grammar & spelling	Many errors.	Some errors.	Few, if any, errors.	
Maximum number of graphics If used, max of 4 (does not include tables)	Exceeds maximum of 4 graphics, illustrations.		Does not exceed maximum of 4 graphics and/or illustrations.	
21. List of references • At least three acceptable references • Wikipedia not recognized as an acceptable reference	No references.	Less than three acceptable references.	At least three acceptable references.	
22. Word count Does not include title, references	No word count at end of document or inaccurate count.		Accurate word count at end of document.	