CSI5165 Combinatorial Algorithms - PROJECT GUIDELINES
Part 1 Project Proposal (5%)
The objective of the project proposal is to precisely define the problem you will work on, propose what you intend to do in the project, do an initial bibliography search, and set the boundaries for the work that you propose to be accomplished.
This will allow you to start to work on your project, and will allow me to give you various types of feedback, such as: ready to proceed, scope is too narrow (little work) or scope is too big (not enough time), suggest additional or more appropriate references, whatever is applicable.

A project proposal should use 1-2 pages and should have:
- An introduction to the problem you will solve which often includes motivation and references, and includes its precise definition.
- A description of chosen solution techniques/algorithm types that will or may be used to solve your problem. Include references, and if one or more of the references is central to what you plan to do, please specify which. Also say if you still plan to do more research in terms of finding other references.
- State specifically the work you plan to accomplish. Any specifics about the types of problems you will focus, which algorithm(s) you will study, what you will implement, what type of experimental analysis you will do (say what algorithms/techniques and/or experiment parameters will be compared), how you plan to obtain test cases (depending on the problem you may use a benchmark library, design an algorithm to generate your sample problems, etc.).

Part 2 Project Presentation – Talk (10%)
In the project presentation you will give a short talk presenting your project to the class.
Talks are schedule for the last day of classes.
Your presence is required in all talks unless excused for specific reason; talks will likely take more than the class time (more than 1.5h, time to be decided).
Prepare a 15-20 minute talk (exact timing to be confirmed) presenting the problem, the key ideas of the algorithms used and results obtained so far.
You will use a slide presentation and submit the slides at the time of the delivery of your talk.

Some criteria for evaluation of the talk:
- Quality of explanation (did you communicate well your ideas so others can understand?)
- Quality of slides (slides have enough contents but not overloaded, contains diagrams, examples, clear headings as you move through topics, etc)
- Organization: did you state clearly what you will be doing, are the parts of your presentation coherent and organized, flow well, etc.
- Contents: talks conveys that you have done enough research work so far and reflects a good knowledge of the subject matter, and you strike the right balance between being understood and giving enough technical details.
- Fun and creativity are pluses in the form of enthusiasm, effective communication, creativity in conveying ideas, etc.

Part 3 Project Report (30%)

The project report consists of a paper of approximately 10-15 pages.
Modeled similarly to a research paper, it will have a title and various sections which will be organized according to need, including: abstract, introduction, background, sections describing methods/algorithms used, implementation details, experiments, experimental results, conclusion, references.

Here I include a sample marking criteria, with sample grades from an actual class from several years ago. It shows some of the aspects being evaluated.

(feedback on each item out of 10)	Student1	St2	St3	St4	St5	St6	St7	St8
Presentation/technical writing	10	8	8	9	10	10+	10	10
Background	10	10	7	9	10	10	10	10
Problem solving/algorithm design	10	7	9	9	10	10	7	10
Implementation	10	7	10	10	10	10	6	9
Testing/analysis	10	4	8	10	10	10	6	10
Creativity/originality	10	7	10	9	10	9	9	10
Workload/amount of work	10+	6	10	10	10+	9	8	10
Report Numerical grade	100	75	85	88	100	95	80	97
Report Conceptual grade	A+	B+	A	A	A+	A+	A-	A+

Note: The numerical grade is not an average of marks above; the weight of each item varies from item to item, and depending on the nature of the project some items are more important. Also there is some qualitative overall evaluation used to reach the final grade.

Disclaimer: There is no particular statement being made regarding typical mark distribution for projects in my course. The marks are more reflective of the particular student group at that year, since the projects are unique and the class is relatively small.