CMSC425 Midterm 2 Prep and practice

The midterm on May 8th will be in class, closed book, and similar to Midterm 1. There will be 5 to 6 questions, up to seven pages, with the first question short answer and the rest applications of the concepts. Questions from the homeworks are fair game, as are questions from lectures before spring break and the practice midterm exams from spring and fall 2018. Question on Unity will be limited, and based on what you should have learned in Project 1.

Possible concepts and questions include:

1. Metrics for best path on map
2. Navmesh process (R_D_P algorithm, triangulation)
3. Walkable terrain
4. Find paths on triangulated space
5. **Configuration spaces**
6. Quality of path
7. **C-obstacles**
8. **Minkowski sums**
9. Navmesh - grid, mulitresolution grid
10. Visibility graph
11. ~~Medial axis~~
12. Randomized placement
13. Rapidly-expanded Random Trees (RRTs)
14. **L-system plus turtle**
15. **Fractal dimension**
16. Randomized and 3D L-systems
17. Particle systems
18. **Flocking**
19. Mandelbrot sets
20. Constructive solid geometry
21. Shading equation
22. Bump mapping
23. Polygonal meshes - basics, Euler's formula
24. **DECL data structures**
25. Perlin noise
26. **A***
27. Admissible heuristic
28. Multiplayer cheating attacks
29. Forbidden velocities for crowd motion
30. Curves and patches (linear, cubic, bilinear, Hermite cubic, matrix representation)