<u>Unit Plan:</u> Differential Equations

Lesson #	Subject	Details	Special comments / HW
1	* Introduction.	*Connection to Prior-knowledge. * Motivation. * Map of the unit + description. * Terms we will use. * Verifying solution.	P. 409 : 1, 2, 4, 5, 8, 13, 14, 15
2	* General solution and verifying solution. * Initial conditions and Particular solution.	* Use simple cases students already know how to solve. * Important: The solution is a FUNCTION, not a number!	P. 409 : 31,32,36 P. 410 : 37, 43,48
3	* Solution curves + Slope fields.	* Start plotting on transparencies.	P.410: 49-52 , 53-56.
4	* Slope fields (cont.)	* This is one of the critical subjects, so worth spending another full lesson on!	P. 412: 85,87,Extra: 95
5	* Unit project.	* This can be moved around. * The reason to put it here initially is to fit on 'Casual Friday'.	**Collect homework** (for the whole week).
6	* Euler method.	* Numerical solution.	P. 411: 75,76,78
7	* Separation of Variables. * Unit Project.	* The only method tested.	P.429: 6,7,11,20,21,23,25,26
8	* Exponential solutions. * Unit Project.	* Exponential solutions – Most important ones! HW: * Read section 6.2, pay special attention to all the examples. 　　　* P.418 (in this order!) : 11-14,25,26,21,24. 　　　* Choose one of the following sets: (33->35),(43,45,47), (57-58)	
9	* Logistic equation. * Unit Project.	* Some more work and examples. * Work on unit-project: Applications!! And meaning of solutions.	Write three question (+solutions) for the test: Easy, Medium, Hard.
10	* Unit project.	* Finishing it all up. (also, working in class on the 3-questions)	**Collect homework** (for the whole week).
11	* (Optional) Finding orthogonal trajectories.	* This is a good application to explore, and brings some insight.	
12	Presentation of unit-projects.	* Peers evaluation.	
13	Unit-Review.	* Summary sheet.	
14	Test.		

* Homework assignments will be given at the end of each lesson, and updated on the web-site, according to our progress.

* Lesson plans, handouts, and additional information will be added to the web-site as we go along. (Though everything will be handed in class as well).