ANNOUNCEMENTS: A notebook is on reserve in the mathematics library in the basement of POT. This notebook will contain solutions to the exams and solutions to a few homework problems. The final examination will be given on Wednesday, 15 December 2004 from 1-3pm in our regular lecture room, CB 349.

Assignments to be graded.

- (10 points extra credit) Homework M. page 830, #4. Due Friday, 12 November 2004.
- Wednesday, 17 November 2004. Notebook check: We will examine Chapter 13 and sections 14.1, 14.2.
- (10 points) Homework N. $\S14.3 \#20$. Due Friday, 19 November 2004.
- (10 points) Homework O. §14.4 #18. Due Tuesday, 23 November 2004.

NOTEBOOK ASSIGNMENTS.

- §14.1 #1, 3, 5, 11–14, 17, 21, 25.
- §14.2 #1, 5, 6, 7, 13, 17, 19, 27, 28a, 37.
- §14.3 #1, 3, 5, 11, 13, 15, 19, 26, 29–31, 33.
- §14.4 #1, 2, 3, 11, 15, 21, 22, 23.
- §14.5 #1, 3, 5, 11, 13, 19, 21, 25, 31, 32, 34.
- §14.6 #1, 3, 5, 9–12, 15, 17, 19, 23, 27.

TOPICS TO BE COVERED.

- §14.1. Sketch vector fields. Interpret vector fields as velocity fields or force fields.
- §14.2. Line integrals with respect to arc-length. Line integrals of vector fields. Interpret integral as work performed.
- §14.3 Evaluating line integrals when the vector field is of the form ∇f . Path independence. Conservative fields. Finding a solution f of $\nabla f = \vec{F}$ in two-dimensions. Open sets, connected sets and simply-connected sets.
- §14.4 Green's theorem. Positive orientation.
- §14.5 Curl and divergence. Conservative fields in three dimensions. The divergence theorem in two dimensions.
- §14.6 Parametric surfaces. Area of parametric surfaces.

November 12, 2004