

METHODS OF APPLIED MATHEMATICS II

SPRING 2017

Class web page: <http://math.rutgers.edu/courses/528/528-s17/>

Instructor: Office: Hill Center 520
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Office Hours: Monday, 1:40–3:00 PM, Hill Center 520
 Tuesday, 10:20–11:40 PM, Hill Center 520
 Thursday, 9:00–10:00 AM, Hill Center 520
 Or by appointment or chance in Hill Center 520

General: This is the second semester of a graduate sequence oriented primarily toward students in mechanical and aerospace engineering. Approximately the first five weeks of the course will be devoted to the theory of complex variables, with the remaining time divided, roughly equally, between the calculus of variations and perturbation theory.

Texts: • *Complex variables:* Greenberg, Michael, D., *Advanced Engineering Mathematics* (2nd edition). Upper Saddle River: Prentice Hall, 1998.

• *Calculus of variations:* Various books will be placed on reserve in the Math library.

• *Perturbation theory:* Bender, Carl M and Orszag, Steven A, *Advanced Mathematical Methods for Scientists and Engineers*. New York, Springer, 1999.

Homework: Homework problems will be assigned weekly through postings on the web page. Assignments will normally be due on Tuesdays; the first assignment will be due Tuesday, January 24.

Academic integrity: You are strongly encouraged to discuss homework problems with me or with other students. On the other hand, after you have finished discussing a problem, you *must* write your solution independently, not in concert with others. If you consult any source (such as a web page, solutions from a previous semester, etc.) in the preparation of homework, you *must* acknowledge this by citing that source; moreover, the work you turn in *must* be written up in your own words, not copied from a source. Failure to observe these restrictions will be treated as a violation of the Rutgers Academic Integrity Policy.

Exams: There will be two in-class exams, tentatively scheduled for **Tuesday, February 28** and **Tuesday, April 4**. The final exam is (again tentatively) scheduled for **Friday, May 5, 12:00–3:00 PM**. Make-up exams will be given only in the case of well-documented illness or major emergency or (only with permission in advance) of a major outside commitment.

Grading: Grading will be based on a weighted average of homework and exams:

Homework	20%
Class exams 20% each	40%
Final exam	40%