



### Course Objectives and Learner Outcomes

Students will be expected to do the following.

- Perform complex number arithmetic in rectangular and polar forms.
- Prove the necessary condition of the Cauchy-Riemann equations.
- Differentiate the elementary functions.
- Compute line integrals.
- Compute real integrals using residues and Cauchy's Theorem.
- Compute the Taylor series for analytic functions and the radii of convergence of a power series.
- Determine where a region is mapped to under a linear fractional transformation.
- Prove a given function is analytic using the Cauchy-Riemann equations.

### Corresponding with Dr. Harper

It is easier for me to respond to e-mail than to a voice-mail message, especially if you have a technical question or, even, if you just want to set-up an appointment. Generally speaking, the latest I check my e-mail is about 2:00 in the afternoon. (I do *not* have home e-mail service.) Therefore, messages sent after two o'clock will not be read until the next day.

