



Hermanus Magnetic Observatory

A Facility of the National Research Foundation

Summer School

Introduction to Computer Programming and Digital Signal Processing for Space Physics

The Hermanus Magnetic Observatory (HMO) will host a summer school from 23 November to 4 December 2009 for final year BSc students majoring in Physics. Preference will be given to students who intend to continue their postgraduate studies in Space Physics. The summer school will include lectures and extensive practical sessions in which each student will be allocated a computer workstation. Topics will include:

- Basic concepts in scientific computer programming.
- Introduction to programming in IDL/Matlab.
- Basic digital signal processing, including
 - Generating and plotting simple time series
 - Fourier transforms and FFT
 - Convolution and Spectrum
 - Digital filtering.

The HMO will provide the following for students attending the summer school:

- Reimbursement of the return travel cost from the normal place of study by bus or air to Cape Town on the following conditions:
 - Maximum reimbursement of R1200,
 - Receipts for all travel costs must be provided,
 - Payment for travel by taxis will not be covered.
- Transport from Cape Town to Hermanus (Western Cape).
- Accommodation and meals (No meals over the weekend).
- An allowance of R250 to purchase week-end meals/food

Students wishing to attend the summer school should apply by 31 October 2009 by means of the application form at <http://moodle.hmo.ac.za> (Instructions for the on-line application and uploading of academic records are available at this site under "Summer School Application").

A maximum of 12 students will be admitted. Students will be notified by 6 November 2009 whether or not they have been selected to attend the summer school. Students who are selected will be required to pay a refundable deposit of R200 before 13 November in order to be enrolled for the Summer School. Students must make their own travel arrangements to arrive in Cape Town, Caledon or Hermanus on 23 November. Inform Gayle Overmeyer of the HMO (info@hmo.ac.za) or 028 312 1196 of arrival location and times on 23 November in Cape Town to arrange for transport to Hermanus.

Further information on the HMO is available from the HMO's website at <http://www.hmo.ac.za>.