

**Medical Equipment Part IV – 2007
Assignment #2**

March 25, 2006

Due Date: April 8, 2007

I. Ultrasound Imaging Projects

1. Design an 8-channel ultrasound system based on analog beamforming technology. Estimate the cost of such system and the advantages/disadvantages of this design.
 2. Design an 8-channel ultrasound system based on digital beamforming technology. Estimate the cost of such system and the advantages/disadvantages of this design.
 3. Provide a survey of the product lines of 5 commercial ultrasound imaging system manufacturers. Sort their products into categories (low-end, mid-range and high-end systems).
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II. Hemodialysis Projects

1. Design a basic hemodialysis system that utilizes an ultrafiltration estimation method based on hematocrit value measurement.
 2. Provide a short survey of practical ultrafiltration rate estimation methods currently in use by hemodialysis companies.
 4. Provide a survey of the product lines of 5 commercial hemodialysis system manufacturers. Sort their products into categories (low-end, mid-range and high-end systems).
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Notes:

1. Submit your group report electronically to Eng. Inas Yassine by the due date.
2. Each group is expected to submit one report on its relevant subject