Print Date: 7/29/14

Course Objectives/Course Outline
Spokane Community College

Course Title:	**Ultrasound Physics and Instrumentation II**
Prefix and Course Number:	**ECHO 135**

COURSE DESCRIPTION

This course is a continuation of the concepts introduced in Sono 125. Ultrasound Physics with emphasis on the Doppler techniques, artifacts, bioeffects, contrast and harmonics, quality assurance, fluid dynamics and hemodynamics. This course and its companion course, Sono 125 are designed to provide the foundation for diagnostic medical sonography imaging procedures and the ability to obtain a passing score on the American Registry of Diagnostic Medical Sonography physical principles and instrumentation examinations. Laboratory experiences are provided.

Course Learning Outcomes:
By the end of this course, a student should be able to:

- Apply the principles of Doppler ultrasound when utilizing PW, CW, HPRF and color flow techniques
- Identify the various artifacts present in ultrasound imaging.
- Describe the Bioeffects of ultrasound
- Describe the utilization of contrast and harmonic imaging and the effects of instrumentation settings.
- Utilize imaging phantoms to develop quality assurance program.
- Utilize the principles of fluid dynamics and hemodynamics in the analysis of ultrasonic imaging.

Course Outline:

I. Doppler techniques
II. Artifacts
III. Bioeffects of Ultrasound
IV. Contrast and Harmonics
V. Quality assurance
VI. Fluid dynamics and Hemodynamics