

[Robert Erlandson, Ph.D.](#)

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Professional Background

Dr. Erlandson has a Ph.D. in Biomedical Engineering from Case-Western Reserve University and a B.S. degree in Electrical Engineering from Wayne State University. Dr. Erlandson directs the efforts of the [Enabling Technologies Laboratory](#)

- research on the development and application of accessible design principles and strategies
- workshops and seminars on process improvement techniques and their relationship to accessible design
- workshops and seminars on agile/flexible devices and their relationship to accessible design
- community service and consultation with respect to the application and utilization of accessible design principles in vocational and educational settings
- student design projects that design and deliver products and services addressing community needs
- development of accessible design curriculum material for undergraduate engineering programs

The process improvement training programs are a collaboration among ETL personnel, educators, and personnel from the Quality Network Group of General Motors. This collaboration has resulted in a unique blend of industrial engineering and accessible or Universal Design for Learning.

Current financial support for the ETL is from a contract with Region IV, the eight Intermediate School Districts in southeastern Michigan: Jackson, Lenawee, Macomb, Monroe, Oakland Schools, St. Clair, Washtenaw, and Wayne RES. (1.) DUE 9972403 pilot study for the development of accessible design material, (2.) DUE 9972403 pilot study for the development of accessible design material, (3.) DUE 0088807 for the development of accessible design curriculum material.

Dr. Erlandson's other research activities involve the theory and application of decision-making methodologies as well as data analysis techniques. Applications areas for the decision-making and data analysis research include: sleep systems. He has pioneered the use of service robots for use in rehabilitation therapy. He has also worked on the design and development of bio-instruments. More recently, he has been working on the development of decision-making systems. He was also guest editor for a special section on rehabilitation robotics in the *IEEE Transactions on Rehabilitation Engineering*, March 1995.

Dr. Erlandson is Chairman of the ECE Department's Undergraduate Committee. In addition to teaching introductory circuit courses, Dr. Erlandson teaches design classes (ECE 5370 and ECE 5380) and an enabling technology class in Electrical Engineering, Occupational Therapy, and soon Education.

Dr. Erlandson has received numerous awards for his teaching and educational activities, including Teaching Excellence Awards in 1994 and 1998. Most recently, Dr. Erlandson and the ETL were awarded the 2000 Michigan Campus Award for exceptional programs at the 31 participating Michigan colleges and universities, that engage or influence students to be involved in community service or service-learning through modeling, influence, or instruction.

In addition to his academic experience, Dr. Erlandson has worked at Bell Telephone Laboratories where he was actively involved in their "In-Hours Continuing Education Program" and worked in the Advanced Software Systems Group, Technology Development for the Metropolitan Center for High Technology, one of three economic development centers established by the State of Michigan.

Course Information

Notes for Dr. Erlandson's [ECE 3300 course](#) (Winter 1999) are available in PDF format.

Course information for Dr. Erlandson's and Donna Case's [ECE 6100 / OT6620 class](#) (Winter 2002).

[Back to The ECE faculty HomePage](#)

[Back to the ETL HomePage](#)

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