

WHAT IS AMRE?

The Wooster Applied Methods & Research Experience (AMRE) is an eight-week summer program which joins student teams and a faculty advisor from The College of Wooster with a local business, industry or government agency (client) in order to apply a mathematical science perspective to problems found in a "real world" setting. Though first and foremost an educational endeavor for the students, AMRE benefits all parties involved. Students are provided a summer experiential opportunity that expands their knowledge in their major field of study by giving them a setting in which they may apply the theory they have learned in the classroom. In addition, these students receive invaluable practical experience in an applied setting. Faculty have the opportunity to be involved with students in a summer activity, while expanding their own knowledge in and contributing to fields of applied mathematics or computer science. Clients have the opportunity to tangibly support education, and at low cost, obtain solutions to problems that would likely not be addressed internally.



Student teams give weekly progress reports in the form of oral presentations to the AMRE group, in addition to periodic presentations to their respective clients. Each team gives a final oral presentation and written report to the client in addition to any product developed. Workshops for AMRE students are also given on a variety of topics that have included group dynamics and consulting, technology usage, production planning, oral presentation, and communication in the corporate workplace.

HISTORY AND FEEDBACK

AMRE began in the summer of 1994 with two projects and has included at least three projects in each subsequent summer. A team of (usually three) students and one faculty advisor is assigned to each project. The faculty advisor works with the client liaison in the spring to determine the scope of the project and formulate a project statement. During the initial weeks of the program, the advisor's involvement is heavier as the student team becomes familiar with the project definition.



The evaluations received have been positive from all perspectives. From an educational point of view, the students find the "hands on" experience particularly worthwhile. They also appreciate the "team" atmosphere of the program. Faculty advisors feel that the students do an excellent job and consistently produce something worthwhile for the client.

Though the educational opportunity provided for our students is of primary importance, the financial feasibility of the program depends very much on the value of the work done for the clients. In every project, client liaisons have indicated that they have been very pleased with the results presented them by the AMRE team. In fact, following many of the projects, clients have hired one or more of the students to continue working for the remainder of the summer or in the following fall. Liaisons have been very impressed with the students, identifying their enthusiasm and quality of work as the greatest strengths of the program. Clients continue to indicate that the results of the project are worth more to them than the fee charged.



TRAINING FOR THE FUTURE

In the modern workplace it is becoming increasingly apparent that employees need more than just the technical skills necessary to perform their jobs. Critical thinking, problem solving, interpersonal relationship skills, and both oral and written communication skills are vital if employees are to continue to make valuable contributions in their workplace. Many businesses have undertaken the task of training their employees in these areas. As a liberal arts college, The College of Wooster places the development of these qualities foremost in the training of its students. By establishing connections between our students and business and industry, AMRE provides an environment where students can begin to practice the use of these skills, while providing business with an opportunity to contribute to the development of individuals who can come into the workplace equipped with these vital qualities.

AMRE
COLLEGE OF WOOSTER
WOOSTER.EDU/AMRE

A SAMPLING OF PROJECTS COMPLETED

AIG (2012)
Modeling Employee Flight Risk for American International Group, Inc.

City of Wooster (2004)
The Economic Impacts of the Rubbermaid Departure from the City of Wooster

The Ohio Light Opera (2008)
Assessing Economic Value of The Ohio Light Opera

FirstEnergy Corp. (2007)
Price Elasticity of Demand for Electricity

BioHio Research Park (2013)
Agbioscience Marketing Research and Methodology Formation

Artiflex Manufacturing (2015)
Improving Revenue Forecasting Through Analysis of Historical Data

Wayne County Children Services (2013)
Analysis of Recent Trends in Children Services Cases

The Goodyear Tire & Rubber Company (2010)
Cross Section Geometry of Complex Steel Cords

Main Street Wooster, Inc. (2003)
Market survey analyses and development of an "Economic White Paper" presenting cost of living and quality of life issues relevant to downtown Wooster

Kent Displays, Inc. (2012)
Modeling Tension in Wound Polyester Film

Fives North American Combustion (2014)
Furnace and Process Data Analysis

Wooster City School District (2014)
Year-round Schooling: Literature Review

A SAMPLING OF PROJECTS COMPLETED

OSU-OARDC (2005, 2006, 2010, 2013, 2014, 2015)
Tomato Analyzer Software Development

The Prentke Romich Co/AAC Institute (2009)
Enrichment and Maintenance of PRC Software Tools

Goodyear Tire & Rubber Company (2013)
Goodyear Tire Sales Forecasting

Progressive Insurance (2015)
Data Analysis for Competitive Intelligence

ProQuest Automotive (2004)
Evaluation of Tools for Optical Image Presentation

Bekaert Corporation (2011)
Efficiency Analysis in MHD Workstations

Smith Dairy (2005)
Production Scheduling System Design and EOQ Analysis

North Coast Athletic Conference (2013)
Analysis of Sports Scheduling for the North Coast Athletic Conference

The Goodyear Tire & Rubber Company (2011)
Translation of 2-dimensional Information from Microscopy Images to Realistic 3-dimensional Representations

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APPLIED METHODS & RESEARCH EXPERIENCE

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