Welding Engineering Technology

Annual Report 1999-2000

Section 1 of 1

WELDING ENGINEERING TECHNOLOGY DEPARTMENT
1999-2000 ANNUAL REPORT FOREWORD

Dear alumni, friends, supporters, and students of the Welding Engineering Technology Department at Ferris State University:

As we complete another academic year it is with professional pride that we present the 1999-2000 Welding Engineering Technology Annual Report. This past year was one of achievement and milestones for the students, faculty, and alumni including:

The College of Technology was reorganized and the welding programs are now in the Welding Engineering Technology Department

Program enrollment has increased to 110 full time students, 55 Welding Engineering Technology and 55 Welding Technology majors

Welding students received $45,500 in American Welding Society and Resistance Welder Manufacturers Association Scholarships in 1999-2000

27 students earned their B.S. Welding Engineering Technology degree in 2000

1999 graduates obtained an average starting salary of $44,500 per year

Welding education has now been an academic discipline at Ferris for 45 years

2000 marks the 15th class of B.S. Welding Engineering Technology graduates

Over 200 B.S. Welding Engineering Technology degrees have been awarded since the inaugural class of 1986

Over $350,000 in American Welding Society and Resistance Welders Manufacturers' Association Scholarships have been received by Welding students since 1986

This year's report is dedicated to our friend and colleague Associate Professor Joe Mikols. Professor Mikols' retirement resignation was received with great regret after 14 years of dedicated service. His technical expertise and professionalism has been a critical ingredient in building the Welding Engineering Technology program at Ferris State University into the largest of its kind in the country! We wish him many years of good health and prosperity during his retirement.

Sincerely,

Kenneth A. Kuk, C.Mfg.E.
Professor and Department Chair

WELDING ENGINEERING TECHNOLOGY DEPARTMENT
TABLE OF CONTENTS

SECTION 1

STATEMENT OF MISSION

WELDING ENGINEERING TECHNOLOGY DEPARTMENT
AT
FERRIS STATE UNIVERSITY

STATEMENT OF MISSION

To continuously define the profession by producing Welding Technology and Welding Engineering Technology graduates whose knowledge, skills, and attitudes are nationally recognized.

Adopted
2000

SECTION 2

HISTORY

WELDING ENGINEERING TECHNOLOGY PROGRAM HISTORY

1955	Welding Started as a Related Subject
1956	One Year Welding Certificate Added
1958	Metallurgy Added
1965	Submerged Arc Welding Added
1965	Destructive Testing Added
1974	Plasma Welding and Cutting Added
1976	American Welding Society Student Section Chartered
1984	B.S. Welding Engineering Technology Program Started
1986	Computer Aided Design Added
1986	Internships Required In B.S. Degree
1986	1st B.S. Welding Engineering Technology Class
1990	Resistance Welding Added
1990	5th B.S. Welding Engineering Technology Class
1991	Laser Welding, Cutting and Processing Added
1993	100th Anniversary of Campus World Structure Added
1995	10th B.S. Welding Engineering Technology Class
1996	Pulsed Gas Metal Arc Welding Added
1997	Industrial Organizational Psychology Added
1998	High School Welding Articulation Program Initiated
2000	15th B.S. Welding Engineering Technology Class
2000	200th B.S. Welding Engineering Technology Graduate
2000	Welding Engineer Tech. Department Established

WELDING ENGINEERING TECHNOLOGY DEPARTMENT FACULTY EMERITI

Roger Kennedy 1955-1986

Ansel Hook 1962-1972

Phillip Girrouix 1965-1968

Emery Wiltse 1968-1981

Harold Hankes 1972-1995

William Carrol 1974-1981

William Beegle 1975-1995

Dennis Nance 1974-1975

Gordon Cossaboom 1986-1988

SECTION 3

HUMAN RESOURCES

WELDING ENGINEERING TECHNOLOGY DEPARTMENT FACULTY

Bradley O. Brew
1981

Assistant Professor, Welding Engineering Technology
B.S. Education, Ferris State University
A.A.S. Welding Technology, Ferris State University
Areas of Expertise: X-Radiation & Ultrasonic Testing, and Fabrication.

Jeffrey N. Carney
1996

Assistant Professor, Welding Engineering Technology
M.S. Occupational Education, Ferris State University
B.S. Welding Engineering Technology, Ferris State University
A.A.S. Welding Technology, Ferris State University
Areas of Expertise: Welding Automation, Fixture Design, Arc Welding Process Selection, Project Implementation

Kenneth A. Kuk
1985

Professor & Dept. Chair, Welding Engineering Technology
M.S. Engineering Management, Western Michigan University
M.S. Occupational Education, Ferris State University
BET Manufacturing Eng. Tech., Wayne State University
A.A.S. Welding Technology, Ferris State University
Certified Manufacturing Engineer, Society of Mfg. Engineers
Areas of Expertise: Project Management, Welding Automation & Design, Welding Economics.

Joseph S. Mikols
1986

Associate Professor, Welding Engineering Technology
M.S. Welding Engineering, The Ohio State University
B.S. Mechanical Eng., Michigan Technological University
Licensed Boiler Erector, Installer, Repairer, State of Michigan
Areas of Expertise: Welding Metallurgy, Welding Processes, ASME Codes

David H. Murray
1981

Associate Professor, Welding Engineering Technology
B.S. Education, Ferris State University
A.A.S. Welding Technology, Ferris State University
Areas of Expertise: Resistance Welding, Welding Procedure Development, ASME Codes.

WELDING ENGINEERING TECHNOLOGY DEPARTMENT ADVISORY COMMITTEE MEMBERS

Mr. James Dolfi	**Supervisor, Welding Engineering** **Ford Motor Company** **Dearborn, MI**
Mr. Richard DuCharme	**Staff Development Engineer** **General Motors Corporation** **Warren, MI**
Mr. Bill Eggleston	**Professor, Welding Technology/Apprenticeship** **Lansing Community College** **Lansing, MI**
Mr. Kevin Foster	**Manufacturing Engineer** **Steelcase North America** **Grand Rapids, MI**
Mr. Jeff Grossman	**Instructional Manager, Welding** **Capitol Area Career Center** **Mason, MI**
Mr. Nick Hammers	**Welding Consultant** **Grosse Point, MI**
Mr. Kurt Hoffman	**Engineer** **RoMan Manufacturing Incorporated** **Grand Rapids, MI**
Mr. Glen Knight	**Administrator, Welding Training** **DaimlerChrysler Corporation** **Auburn Hills, MI**
Mr. Harlon Neumann	**Director, Light Industrial Focus Group** **Genesis Systems Group** **Davenport, IA**
Mr. David Snider	**District Sales Manager** **The Lincoln Electric Company** **Grand Rapids, MI**
Mr. Dave Williamson	**Technical Program Manager** **DCT Incorporated** **Warren, MI**
Mr. Eric Young	**Account Manager** **Miller Electric Manufacturing Company** **Appleton, WI**

SECTION 4

CURRICULUM

Welding Technology

FERRIS STATE UNIVERSITY

Welding Technology

Associate in Applied Science • College of Technology

Established in 1955, the welding technology program produces welding technicians and prepares students for admission into the B.S. program in welding engineering technology.

Students receive hands-on laboratory experience in welding processes, metallurgy, mechanical testing, inspection and fabrication of weldments. Graduates become technicians involved in testing and improving welding processes, procedures and equipment. Welding technology graduates hold job titles as welding technicians, welding supervisors, inspectors and sales engineers.

To assist the welding students, Ferris provides several welding instructional areas including laboratories dedicated to inspection, mechanical testing, robotics, laser processing, resistance welding and material preparation-fabrication. In addition to welding courses, metallurgy, computer aided design, electronics and machine tool courses are required and are taught by faculty specialists in those departments.

Why Choose Welding Technology?

Because welding is a basic element in the production of a vast array of items, jobs as welding technologists are abundant.

Welding technicians know how to determine the best applications for welding and can select proper welding equipment, train welding personnel and decide on the materials required for manufacturing.

Welding technicians also select and maintain quality control procedures throughout the welding process and perform destructive and non-destructive tests to ensure the quality and reliability of weldments.

The demand of skilled technicians will continue to grow as the use of high-tech systems in the metals fabrication industry increases. A wide variety of employment positions are found in the manufacturing and construction industries .

The following is a list of required courses:

Courses in major		Credit Hours
ETEC 140	Engineering Graphics	2
EEET 228	Electronic Technology for Welding 1	4
MATL 240	Introduction to Materials Science	4
MFGT 150	Manufacturing Processes	2
WELD 111	Welding Processes 1Lecture	3
WELD 113	Welding Processes 1 Lab	5
WELD 112	Welding Graphics	2
WELD 121	Welding Processes 2 Lecture	3
WELD 123	Welding Processes 2 Lab	5
WELD 211	Welding Fabrication 1	5
WELD 212	Quality Testing	4
WELD 221	Welding Fabrication 2	4
WELD 222	Introduction to Welding Automation	3
General education		
ENGL 150	English 1	3
ENGL 250	English 2	3
MATH 116	Intermediate Algebra and Numerical Trigonometry	4
PSYC 150	Introduction to Psychology	3
PHYS 211	Introduction to Physics 1	4
Electives:	Cultural Enrichment	3

Minimum semester credit hours required for welding technology A.A.S. degree: 67

Welding Technology

Admission Requirements

Admission is open to high school graduates with a 2.0 average, as well as non-graduates who demonstrateby other means that their backgrounds are appropriate to their chosen programs. An ACT math score of 15 (19 recommended) is the minimum required to enroll in the technology course sequence. All students are expected to demonstrate maturity and seriousness of purpose to met their goals.

Students who do not meet immediate entrance requirements may be accepted by the College of Technology on a pre-technical basis pending completion of all the prerequisites before admission into the program. If prerequisites must be taken, additional time is required for degree completion.

Graduation Requirements

The welding technology program at Ferris leads to an associate in applied science degree. Graduation requires a minimum 2.0 average in core classes, in the major, and overall.

General Information

Ferris State University is in its second century as one of the nation's premier technical and professional universities. It provides the education to make its graduates immediately employable in their chosen fields.

Approximately 120 educational programs — including doctorates, master's, bachelor's, associate degrees and certificates — are offered through the colleges of Allied Health Sciences, Arts and Sciences, Business, Education, Michigan College of Optometry, Pharmacy and Technology.

A wide variety of student organizations are active on campus, encompassing social, athletic, political, artistic and religious activities and interests.

Arts and cultural events, varsity athletics and an extensive intramural sports program further enrich student life.

The University has on-campus residential facilities for about 40 percent of its nearly 10,000 students.

Founded in 1884 by Michigan educator and statesman Woodbridge N. Ferris, the University has developed a modern, 600-acre campus in Big Rapids, in west central Michigan's vacation-recreation country.

FERRIS STATE UNIVERSITY

Give us a call toll-free at 1-800-4-FERRIS (from MI, IL, IN, OH, WI), or (616) 592-2100. After June 5, call (231) 591-2100.

Visit our homepage <www.ferris.edu>.

How to enroll

Student applications may be obtained by writing to:

Admissions Office
Ferris State University
420 Oak Street
Big Rapids, MI
49307-2020.

Applications can also be submitted on-line at the FSU web site or call the toll-free phone number, both listed below.

Applications are also available at the offices of Michigan high school and community college counselors.

The completed application must be returned to the Admissions Office well in advance of the semester in which the student expects to enroll.

Financial aid

At Ferris, more than 70 percent of the students receive financial aid, including scholarships, grants-in-aid, long-term loans or part-time employment.

The University annually awards more than $43 million in total student aid.

For more information, write to:

Financial Aid Office
420 Oak Street/PRK 102
Big Rapids, MI 49307-2020
or call **1-800-940-4243** (MI, IL, IN, OH, WI) or **(616) 592-2110**.
After June 5, call
(231) 591-2110.

More information

For more information about this program, write to:
Ferris State University
College of Technology
Johnson Hall 200
1009 Campus Drive
Big Rapids, MI 49307-2280
or call (616) 592-2890. After June 5, call (231) 591-2890.

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

WELDING TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE DEGREE
FALL SEMESTER
Curriculum Guide Sheet

NAME OF STUDENT _____ STUDENT I.D.: _____

Total semester hours required for graduation: 67

NOTE: Meeting the requirements for graduation indicated on this sheet is the responsibility of the student. Compliance with this agreement will assure the student completion of the program in the time frame indicated. Your advisor is available to assist you.

			CREDITS	COMMENTS/GRADE
FIRST YEAR - FALL SEMESTER (16)				
WELD	111	Welding Processes 1 Lecture	3	
WELD	113	Welding Processes 1 Lab	5	
WELD	112	Welding Graphics	2	
ETEC	140	Engineering Graphics Comprehensive	3	
____	__	Cultural Enrichment Elective	3	
FIRST YEAR - WINTER SEMESTER (19)				
WELD	121	Welding Processes 2 Lecture (WELD 111, 113)	3	
WELD	123	Welding Processes 2 Lab (WELD 111, 113)	5	
MATL	240	Introduction to Material Science	4	
MATH	116	Int. Algebra & Numerical Trig. (MATH 110)	4	
ENGL	150	English 1	3	
SECOND YEAR - FALL SEMESTER (16)				
WELD	211	Welding Fabrication 1(WELD 121/123)	5	
WELD	212	Quality Testing (WELD 121/123)	4	
PHYS	211	Introductory Physics I (MATH 116)	4	
ENGL	250	English 2 (ENGL 150)	3	
SECOND YEAR - WINTER SEMESTER (16)				
WELD	221	Welding Fabrication 2 (WELD 211, 212, ENGL 250)	4	
WELD	222	Introduction to Welding Automation (WELD 211, 212)	3	
EEET	228	Electronic Technology for Welding 1	4	
MFGT	150	Manufacturing Processes	2	
PSYC	150	Introductory Psychology	3	

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

CURRICULUM REQUIREMENTS
WELDING TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE DEGREE
FALL SEMESTER

TECHNICAL			CREDIT HOURS
WELD	111	Welding Processes 1 Lecture	3
WELD	113	Welding Processes 1 Laboratory	5
WELD	112	Welding Graphics	2
WELD	121	Welding Processes 2 Lecture	3
WELD	123	Welding processes 2 Laboratory	5
WELD	211	Welding Fabrication 1	5
WELD	212	Quality Testing	4
WELD	221	Welding Fabrication 2	4
WELD	222	Intro. to Welding Automation	3
Technical Related			
EEET	228	Electronic Tech. for Welding 1	4
ETEC	140	Engineering Graphics	3
MATL	240	Intro. to Material Science	4
MFGT	150	Manufacturing Processes	2

GENERAL EDUCATION			CREDIT HOURS
Communication Competence			
ENGL	150	English 1	3
ENGL	250	English 2	3
Scientific Understanding			
PHYS	211	Introductory Physics I	
Quantitative Skills			
MATH	116	Inter. Algebra & Num. Trig.	4
Cultural Enrichment			
Elective			3
Social Awareness			
PSYC	150	Introductory Psychology	3

A.A.S. Degree Minimum General Education Requirements in Semester Hours:

Cultural Enrichment Credits - 3
Communications Credits - 6

Social Awareness Credits - 3
Scientific Understanding Credits - 3-4

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Welding Engineering Technology

Ferris State University

Welding Engineering Technology

Bachelor of Science • College of Technology

Established in 1984, the nationally recognized welding engineering technology degree is one of just a few of its kind in the United States. The program is designed to produce plant level welding engineering technology graduates who are involved in the concept, design and engineering of weldments and implementation of welding processes. This overall knowledge of weldments and the ability to engineer welding and joining systems produces graduates that are in great demand and highly compensated. Welding engineering technology graduates hold job titles as welding, application and project engineers. They are employed in all sectors of the economy including the automotive, appliance, aerospace, construction, equipment and automation industries. Graduates are placed across the United States and around the world.

To assist the welding students, Ferris provides several welding instructional areas including laboratories dedicated to inspection, mechanical testing, robotics, laser processing, resistance welding and material preparation-fabrication. In addition to welding courses, metallurgy, computer aided design, electronics and manufacturing courses are required and are taught by faculty specialists in those departments.

Why Choose Welding Engineering Technology?

From microchips to oil rigs, from satellites to automobiles, welding holds our world together. Welding is the most efficient and economical joining technology in use today.

Welding and its allied processes are technologically complex and becoming more so as advanced materials – high-strength steels, plastics, and composites – become an increasingly broad part of our lives.

The automotive, construction, appliance, stamping, equipment and robotics industries are just some of the avenues of employment for graduates. Welding, manufacturing, application and project engineering positions all require individuals who have received technical training in welding processes and who are able to design welded systems that will increase quality and productivity.

The following is a list of required courses:

Courses in major		Credit Hours
EEET 315	Electronic Technology for Welding	4
MECH 240	Statics and Strengths of Materials	4
MFGE 353	Statistical Quality Control	3
MFGE 423	Engineering Economics	2
WELD 311	Welding Automation and Robotics	4
WELD 312	Design of Weldments	3
WELD 321	Laser Welding, Cutting and Processing	3
WELD 322	Advanced Resistance Welding	3
WELD 393	Internship	4
WELD 411	Advanced Welding Processes	3
WELD 412	Computer Aided Weldment Design	3
WELD 422	Material Science	3
WELD 499	Project Engineering and Management	3
General education		
CHEM 121	General Chemistry	5
COMM 121	Fundamentals of Public Speaking	3
ENGL 311	Advanced Technical Writing	3
MATH 126	Algebra and Analytic Trigonometry	4
MATH 216	Analytical Geometry and Calculus	4
PSYC 326	Industrial Organizational Psychology	3
Electives:	Social Awareness	3
	Cultural Enrichment	3
	Cultural Enrichment (200 level)	3

Minimum semester credit hours required (in addition to an associate degree in welding technology) for welding engineering technology B.S. degree: 73

Welding Engineering Technology

Admission Requirements

To be eligible for welding engineering technology, students must complete a two-year associate degree program at Ferris in welding technology or an equivalent two-year AAS degree from another institution. Students must have a 2.75 grade point average in welding courses and a 2.5 overall.

Graduation Requirements

The welding engineering technology program at Ferris leads to a bachelor of science degree. Graduation requires a minimum 2.0 grade point average in core classes, in the major and overall. Graduates must complete all general education requirements as outlined in the General Education section of the University Catalog.

Visit our homepage at <http://www/cot.ferris.edu/~welding/

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FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

WELDING ENGINEERING TECHNOLOGY
BACHELOR OF SCIENCE DEGREE
FALL SEMESTER
Curriculum Guide Sheet

NAME OF STUDENT _____ STUDENT I.D.: _____

Total semester hours required for graduation: 73

NOTE: Meeting the requirements for graduation indicated on this sheet is the responsibility of the student. Compliance with this agreement will assure the student completion of the program in the time frame indicated. Your advisor is available to assist you.

	CREDITS	COMMENTS/GRADE
THIRD YEAR - FALL SEMESTER (20)		
WELD 311 Welding Automation & Robotics (JR status)	4	
WELD 312 Design of Weldments (JR status)	3	
EEET 315 Electronic Tech. for Welding (EEET 228/MATH 116)	4	
MATH 126 Algebra & Analytical Trigonometry (MATH 116)	4	
CHEM 121 General Chemistry (CHEM 103 or H/S chemistry)	5	
THIRD YEAR - WINTER SEMESTER (17)		
WELD 321 Laser Welding, Cutting & Processing (JR status)	3	
WELD 322 Advanced Resistance Welding (JR status)	3	
MATH 216 Applied Calculus (MATH 126)	4	
MECH 240 Statics and Strengths of Materials (MATH 126)	4	
ENGL 311 Advanced Technical Writing (ENGL 250)	3	
THIRD YEAR - SUMMER SEMESTER		
WELD 393 Internship	4	
FOURTH YEAR - FALL SEMESTER (17)		
MFGE 353 Statistical Quality Control (MATH 126)	3	
WELD 412 Comp. Aided Weldment Design (MECH 240/WELD 312/393)	3	
WELD 422 Material Science (AAS in Welding, WELD 393)	3	
MFGE 423 Engineering Economics (MATH 126)	2	
COMM 121 Fundamentals of Public Speaking	3	
____ ___ Social Awareness Elective	3	
FOURTH YEAR - WINTER SEMESTER (15)		
WELD 411 Advanced Welding Processes (AAS in welding, WELD 393)	3	
WELD 499 Proj. Eng. and Mgt. (WELD 412)	3	
PSYC 326 Indust-Organizational Psychology(PSYC 150)	3	
____ ___ Cultural Enrichment Elective	3	
____ ___ Advanced Cultural Enrichment Elective	3	

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

CURRICULUM REQUIREMENTS
WELDING ENGINEERING TECHNOLOGY
BACHELOR OF SCIENCE DEGREE
FALL SEMESTER

ENTRY CRITERIA:

1. Application for admission submitted by February 15 prior to Fall term requested.
2. Associate in Welding Technology.
3. A minimum 2.75 honor point average in major courses.
4. A minimum 2.50 honor point average overall.
5. Satisfy all prerequisites to enter MATH 126.

TECHNICAL			CREDIT HOURS
WELD	311	Welding Automation & Robotics	4
WELD	312	Design of Weldments	3
WELD	321	Laser Welding, Cutting & Processing	3
WELD	322	Advanced Resistance Welding	3
WELD	393	Internship	4
WELD	411	Advanced Welding Processes	3
WELD	412	Computer Aided Weldment Design	3
WELD	422	Material Science	3
WELD	499	Project Engineering & Management	3
Technical Related			
EEET	315	Electronic Technology for Welding	4
MECH	240	Statics & Strengths of Materials	4
MFGE	353	Statistical Quality Control	3
MFGE	423	Engineering Economics	2

GENERAL EDUCATION			CREDITS HOURS
Communication Competence			
COMM	121	Fundamentals of Public Speaking	3
ENGL	311	Advanced Technical Writing	3
Scientific Understanding			
CHEM	121	General Chemistry	5
Quantitative Skills			
MATH	126	Algebra & Anal. Trigonometry	4
MATH	216	Applied Calculus	4
Cultural Enrichment *			
Elective			3
Elective (200+)			3
Social Awareness *			
Elective			3
PSYC	326	Indust-Organizational Psychology	3

B.S. Degree Minimum General Education Requirements in Semester Hours:

Cultural Enrichment Credits - 9
Communications Credits - 12
Social Awareness Credits - 9
Scientific Understanding Credits - 7-8

***Must satisfy General Education Basic, Foundations, Global Consciousness, Race/Gender/Ethnicity requirements.**

WELDING ENGINEERING TECHNOLOGY
PROGRAM CONCENTRATIONS

AUTOMATION
Welding Automation and Robotics
Laser Welding, Cutting, and Processing
Resistance Welding

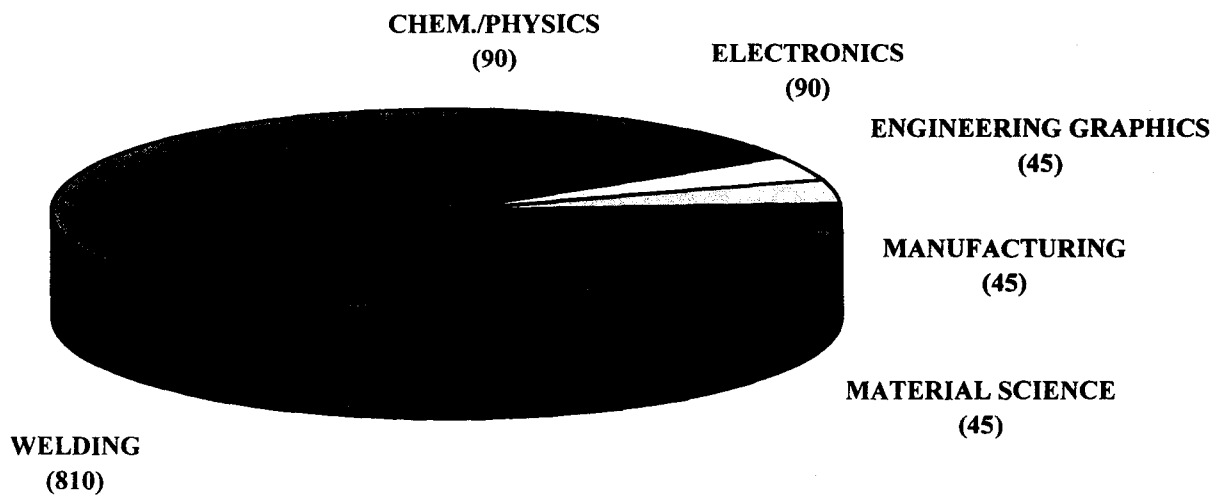
DESIGN
Welding Design and Fabrication
Computer Aided Weldment Engineering
Material Science
Welding Metallurgy

PRODUCTION
Welding Project Engineering and Management
Welding Processes
Welding Codes and Procedures
Non-Destructive Testing
Weldment Fabrication
Industrial Organizational Psychology

GENERAL ENGINEERING TOPICS
Statics and Strength of Materials
Statistical Quality Control
Engineering Economics
Industrial Control Electronics

MATHEMATICS AND SCIENCE
Chemistry
Calculus
Physics

WELDING ENGINEERING TECHNOLOGY
AND
WELDING TECHNOLOGY
TOTAL LABORATORY HOURS



SECTION 5

LABORATORY FACILITIES

WELDING ENGINEERING TECHNOLOGY DEPARTMENT LABORATORY FACILITES

The Welding Engineering Technology department at Ferris State University maintains four special purpose laboratories totaling 8,000 square feet of instructional space to serve over 100 Welding majors and 150 technology students from other disciplines.

MAJOR LABORATORY
3,000 SQUARE FEET OF INSTRUCTIONAL SPACE
28 WELDING STATIONS, INCLUDING:
Oxygen Fuel Line burners
Shielded Metal Arc Welding
Gas Tungsten Arc Welding with Pulsation
Gas Metal Arc Welding with Pulsation
Flux Cored Arc Welding with Gas Shielding
Plasma Arc Welding and Cutting
Submerged Arc Welding
Grinding Room

AUTOMATION LABORATORY
2,200 SQUARE FEET OF INSTRUCTIONAL SPACE
15 AUTOMATED WELDING STATIONS, INCLUDING:
Robotic Welding Work Cells
Laser Welding and Cutting Work Cell
Gas Tungsten Arc Welding Work Cells with Pulsation
Resistance Welding Work Stations
Submerged Arc Welding Work Station

TESTING LABORATORY
350 SQUARE FEET OF INSTRUCTIONAL SPACE
8 TESTING STATIONS, INCLUDING:
Tensile and Guided Bend Testing Equipment
Ultrasonic Equipment
Radiography Equipment

RELATED LABORATORY
2,800 SQUARE FEET OF INSTRUCTIONAL SPACE
18 WELDING STATIONS, INCLUDING:
Oxygen Fuel Welding and Cutting
Shielded Metal Arc Welding
Gas Metal Arc Welding with Pulsation
Shear and Press Brake
Fabrication Area

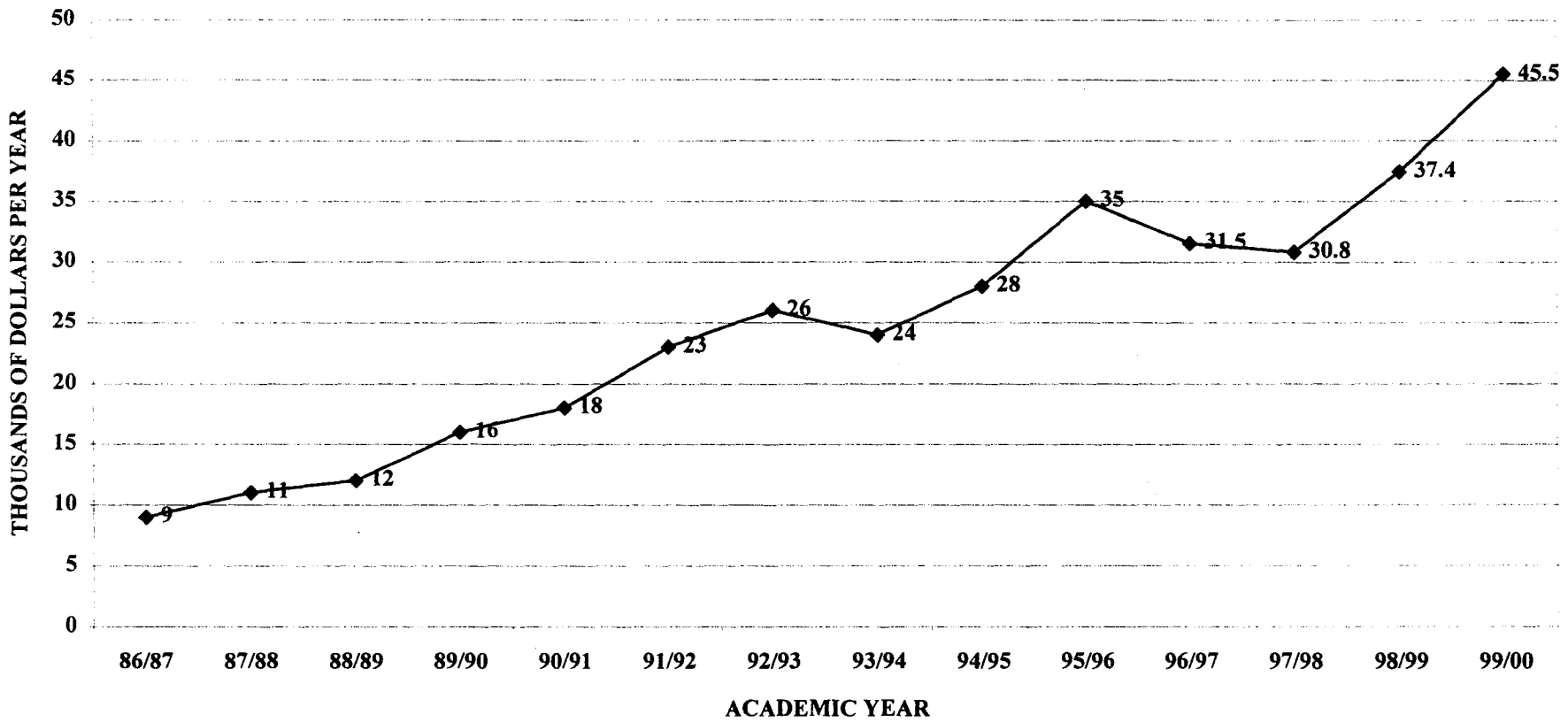
SECTION 6

AWARDS AND SCHOLARSHIPS

WELDING ENGINEERING TECHNOLOGY
FACULTY TEACHING AWARD RECIPIENTS

FACULTY NAME	YEAR	AWARD
Joseph S. Mikols	1991/1992	American Welding Society Adams Memorial Membership Recognizes educators for outstanding teaching activities in their undergraduate and postgraduate institutions
Kenneth A. Kuk	1993/1994	American Welding Society Adams Memorial Membership Recognizes educators for outstanding teaching activities in their undergraduate and postgraduate institutions
David H. Murray	1995/1996	American Welding Society Adams Memorial Membership Recognizes educators for outstanding teaching activities in their undergraduate and postgraduate institutions

WELDING ENGINEERING TECHNOLOGY DEPARTMENT
AMERICAN WELDING SOCIETY
RESISTANCE WELDER MANUFACTURERS' ASSOCIATION
TOTAL SCHOLARSHIP AWARDS



AMERICAN WELDING SOCIETY
NATIONAL NAMED SCHOLARSHIP RECEIPENTS

STUDENT NAME	YEAR	SCHOLARSHIP
James Norman	1996/1997	Howard E. Adkins
Kevin Strynski	1997/1998	Howard E. Adkins
Galen White	1997/1998	Edward J. Brady
Scott Tacey	1998/1999	Edward J. Brady
William Stellwag Jr.	1999/2000	Edward J. Brady
Wesley Doneth	2000/2001	Praxair
Brian Muenchau	2000/2001	Airgas Terry Jarvis

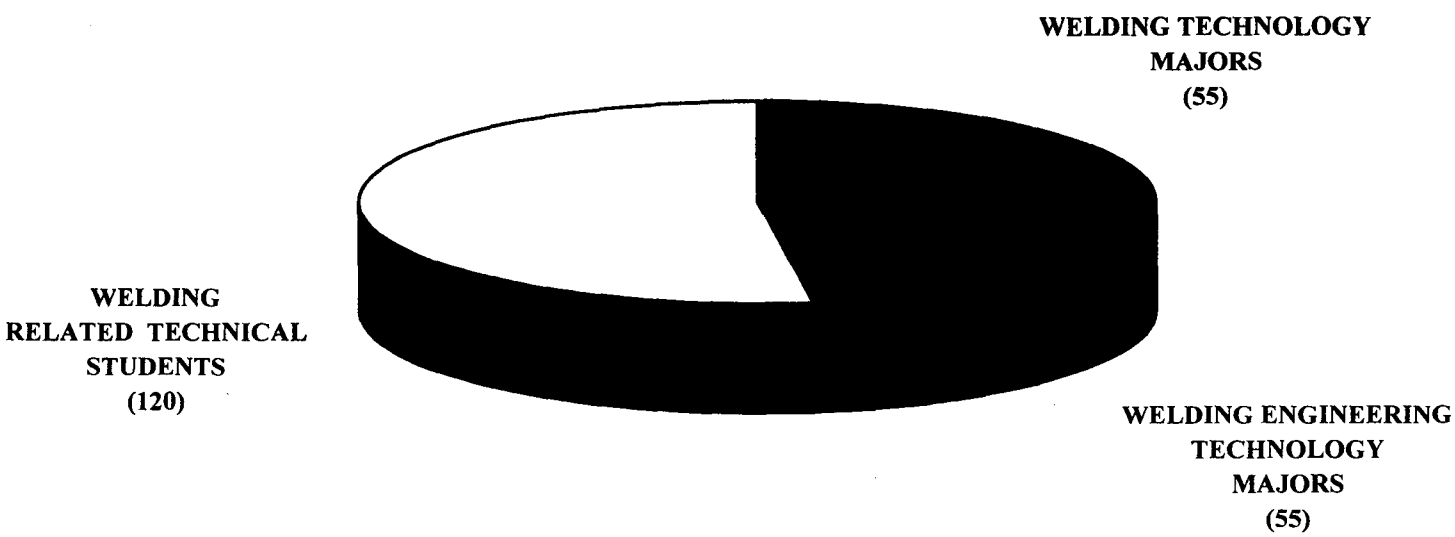
RESISTANCE WELDERS MANUFACTURERS' ASSOCIATION NATIONAL SCHOLARSHIP RECEIPENTS

STUDENT NAME	YEAR
Kevan Kokkonen	1995/1996
Alex Weiss	1995/1996
Christopher Serafin	1996/1997
James Norman	1996/1997
Galen White	1997/1998
Kevin Strzynski	1997/1998
Leah Curtis	1998/1999
Scott Tacey	1998/1999
Wesley Doneth	1999/2000
Lisa McClure Hopkins	1999/2000

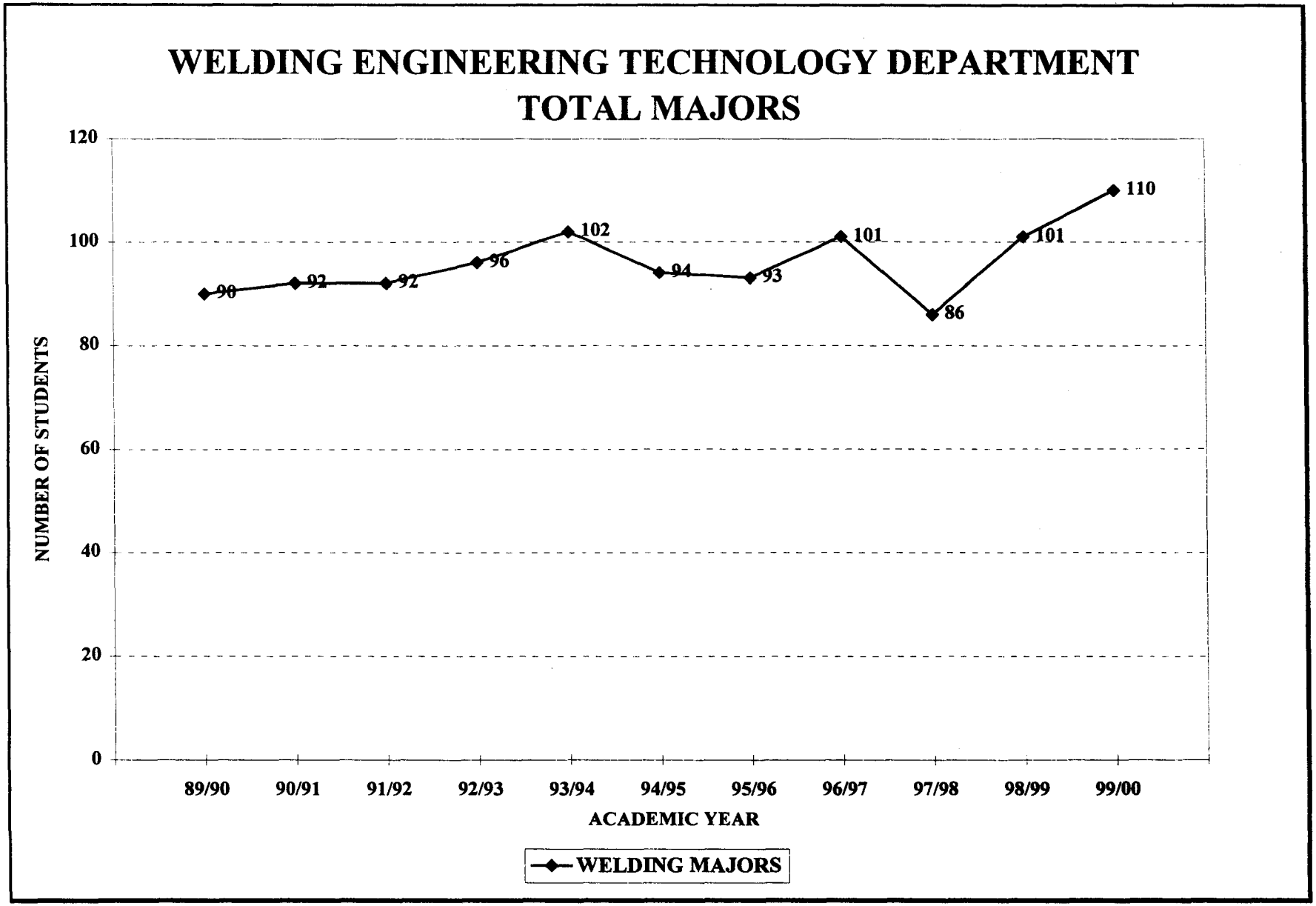
SECTION 7

ENROLLMENT

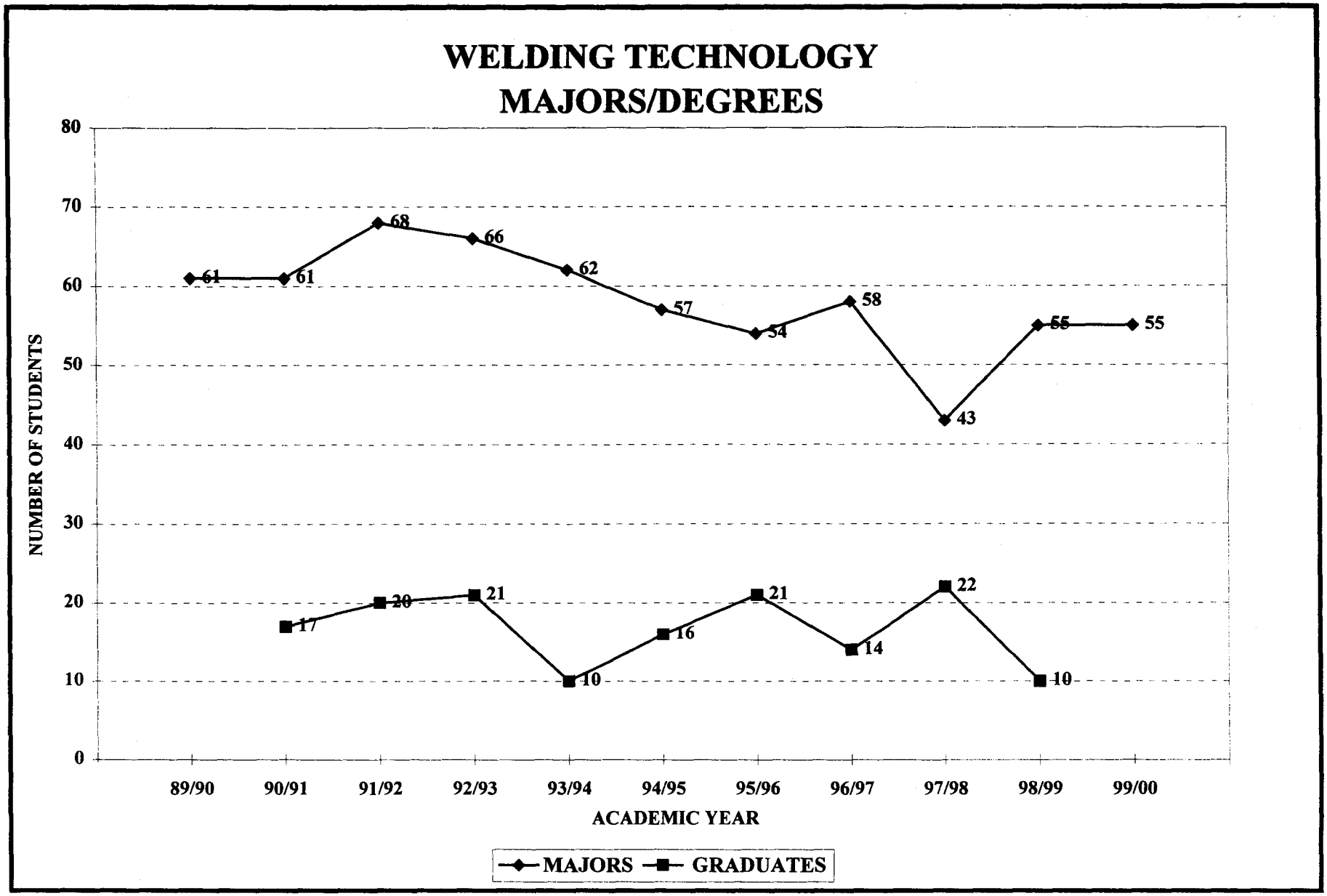
WELDING ENGINEERING TECHNOLOGY DEPARTMENT
TOTAL ENROLLMENT



Total Welding Program(s) Enrollment 2000

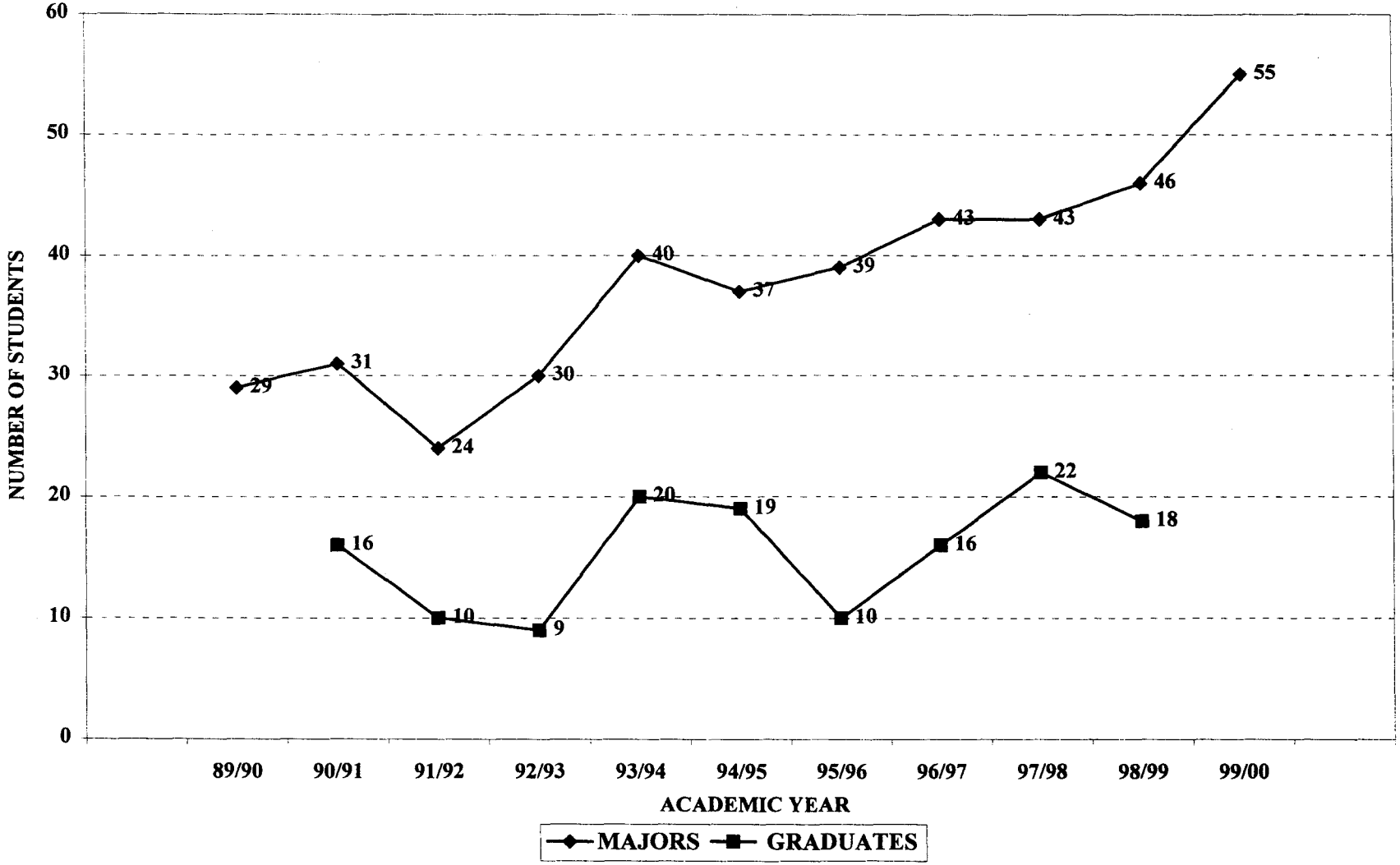


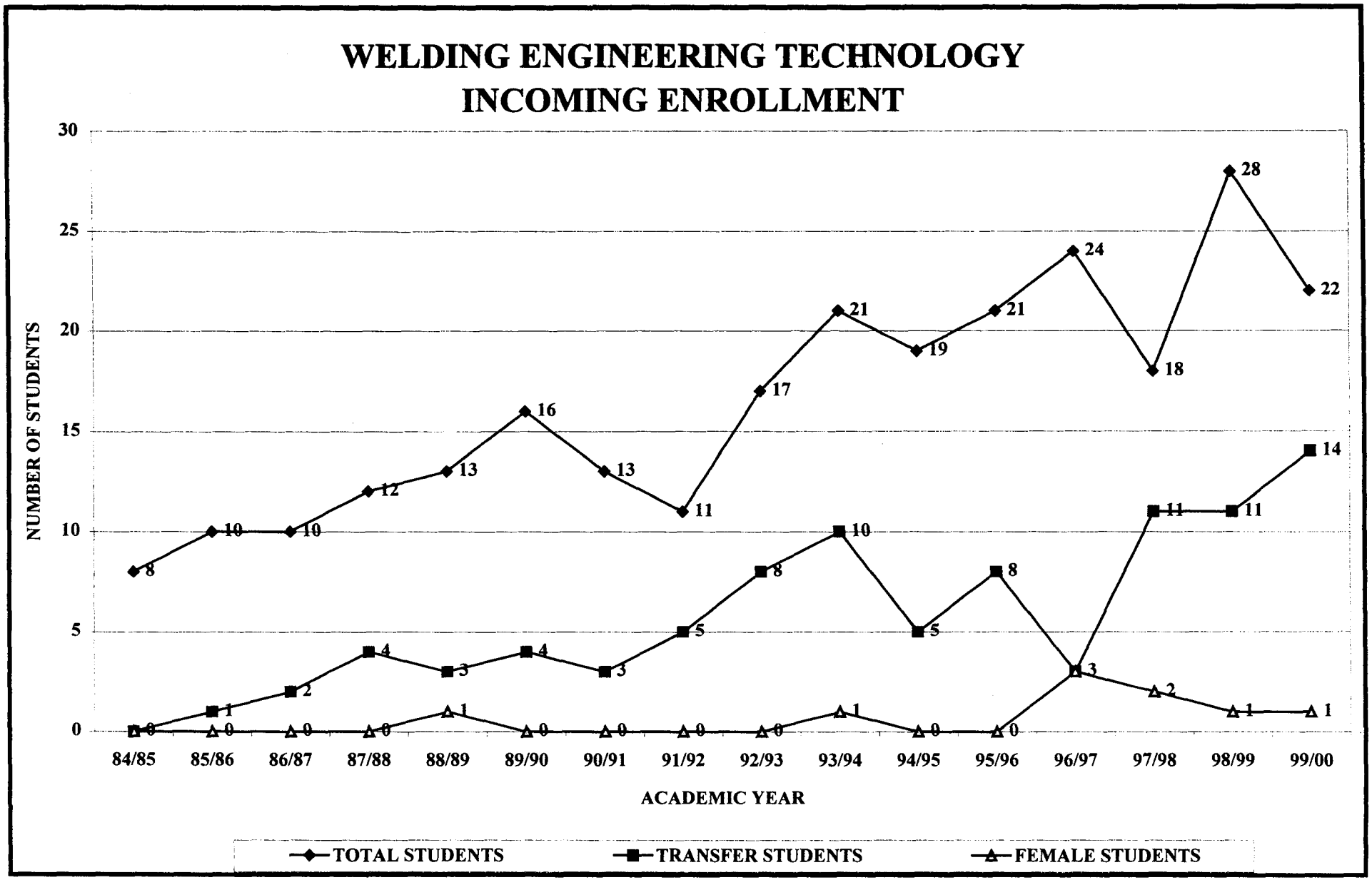
TOTAL WELDING ENROLLMENT 2000



WTENROL 2000

WELDING ENGINEERING TECHNOLOGY MAJORS/DEGREES




WELDING ENGINEERING TECHNOLOGY
INCOMING ENROLLMENT
NUMBER OF STUDENTS
30
25
20
15
10
5
0
84/85
85/86
86/87
87/88
88/89
89/90
90/91
91/92
92/93
93/94
94/95
95/96
96/97
97/98
98/99
99/00
ACADEMIC YEAR
TOTAL STUDENTS
TRANSFER STUDENTS
FEMALE STUDENTS
8
10
10
12
13
16
13
11
17
21
19
21
24
18
28
22
0
1
2
4
3
4
3
5
8
10
5
8
3
11
11
14
0
0
0
0
0
1
0
0
0
0
0
1
0
0
0
2
1
1

WELDING ENGINEERING TECHNOLOGY COMMUNITY COLLEGE TRANSFER PROGRAMS

MICHIGAN
Bay de Noc Community College
Delta Community College
Grand Rapids Community College
Jackson Community College
Kalamazoo Valley Community College
Kellogg Community College
Kirtland Community College
Lansing Community College
Macomb Community College
Monroe Community College
Mott Community College
Mid Michigan Community College
Schoolcraft Community College
West Shore Community College
Washtenaw Community College

ILLINOIS
Belleville Area College
College of DuPage

MAINE
Eastern Maine Technical College

NEW HAMPSHIRE
Vocational Technical Community College

WISCONSIN
Fox Valley Technical College
Madison Area Technical College

ONTARIO, CANADA
Conestoga College

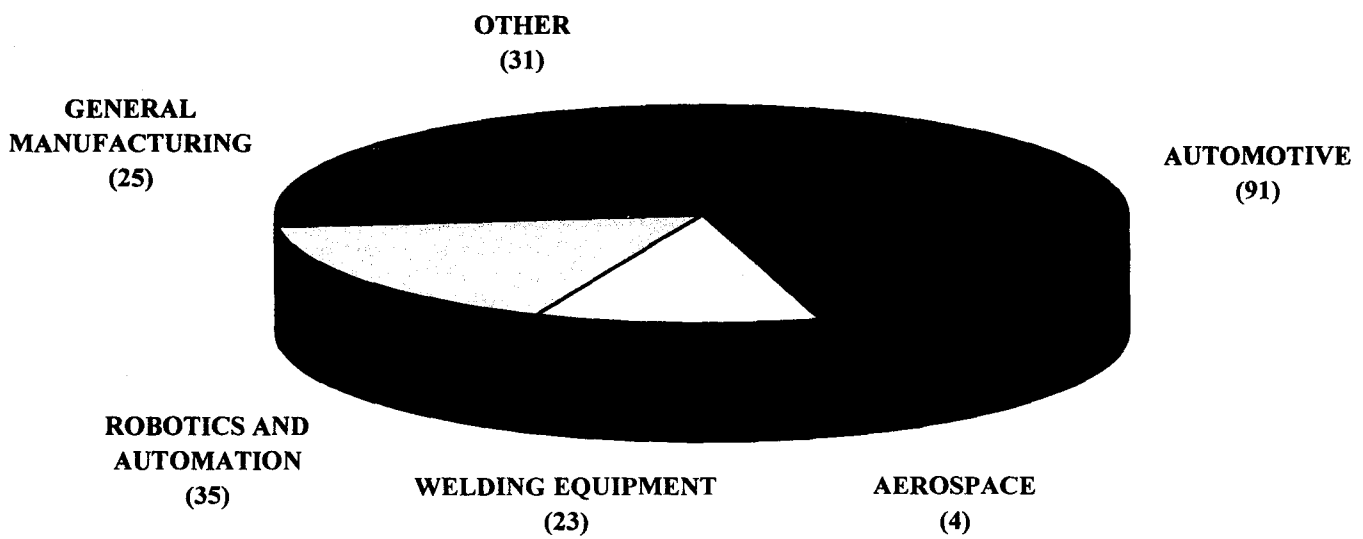
SECTION 8

EMPLOYMENT

WELDING ENGINEERING TECHNOLOGY
SELECTED POSITION TITLES OF ALUMNI

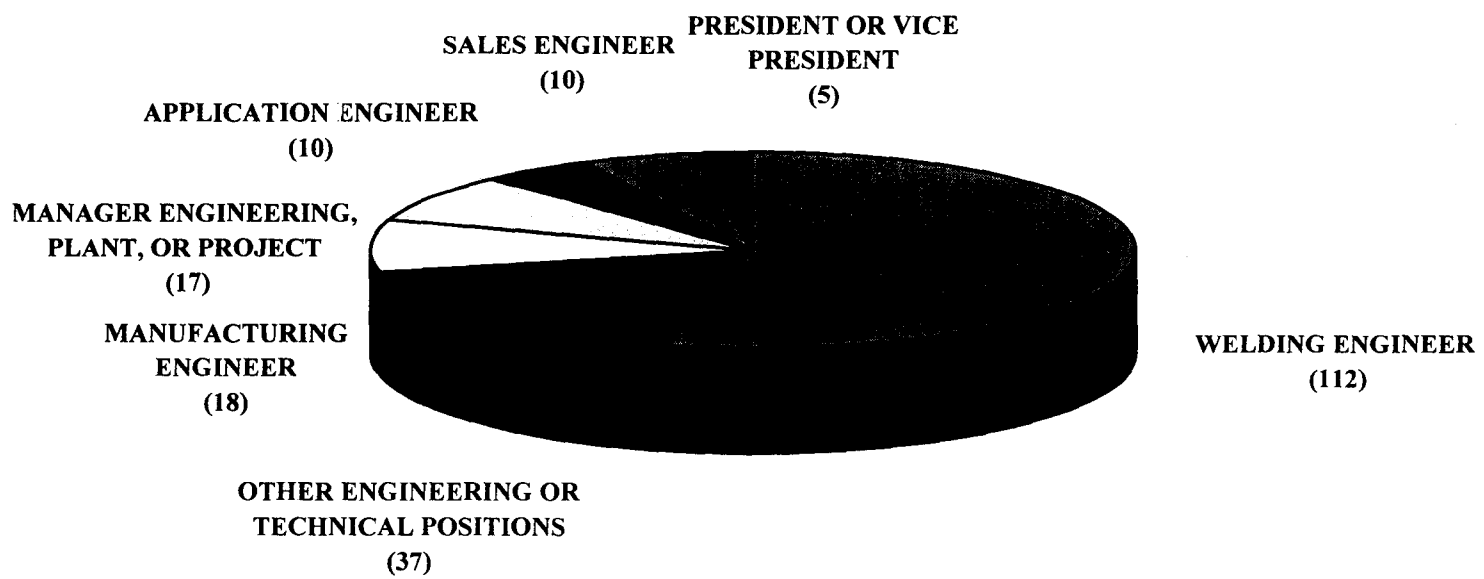
EMPLOYMENT CATEGORY	POSITION TITLE
Education	Assistant Professor
Management	District Sales Manager Engineering Manager General Manager Manager Application Engineering Managing Director Plant Manager President Product Manager Production Manager Project Manager Quality Assurance Manager Vice President Welding Department Manager
Sales and Marketing	Technical Sales Sales Engineer
Technical	Application Engineer Assembly Engineer Design Engineer Development Engineer Industrial Engineer Manufacturing Engineer Process Engineer Product Engineer Project Engineer Quality Control Engineer Robotic Engineer Training Development Engineer Welding Engineer Welding Technician Welding Technologist

WELDING ENGINEERING TECHNOLOGY
EMPLOYERS BY INDUSTRY



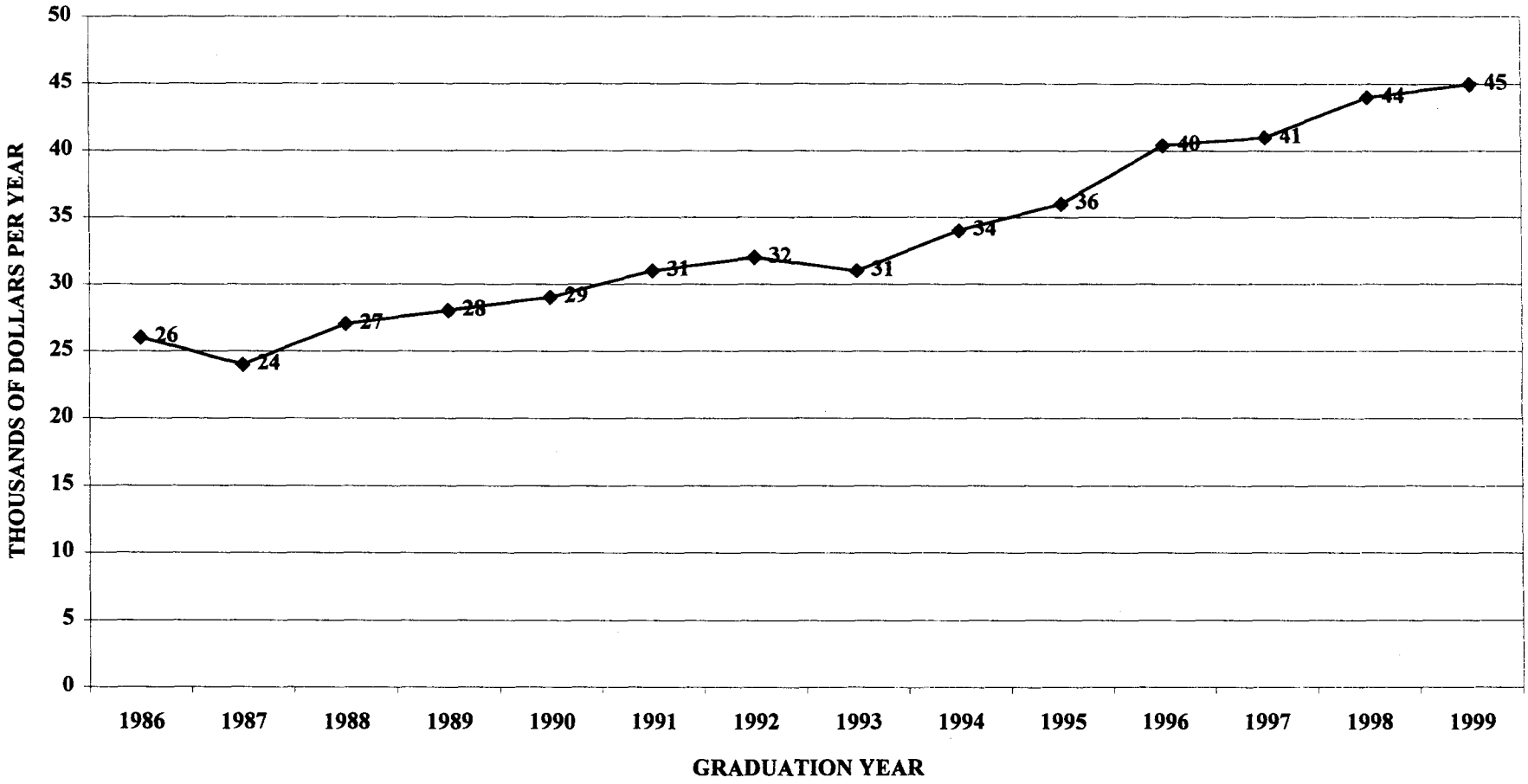
Employers by Industry 2000

WELDING ENGINEERING TECHNOLOGY
POSITION TITLES OF ALUMNI



Position Titles 2000

WELDING ENGINEERING TECHNOLOGY
AVERAGE STARTING SALARIES



WELDING ENGINEERING TECHNOLOGY
STATES WITH ALUMNI

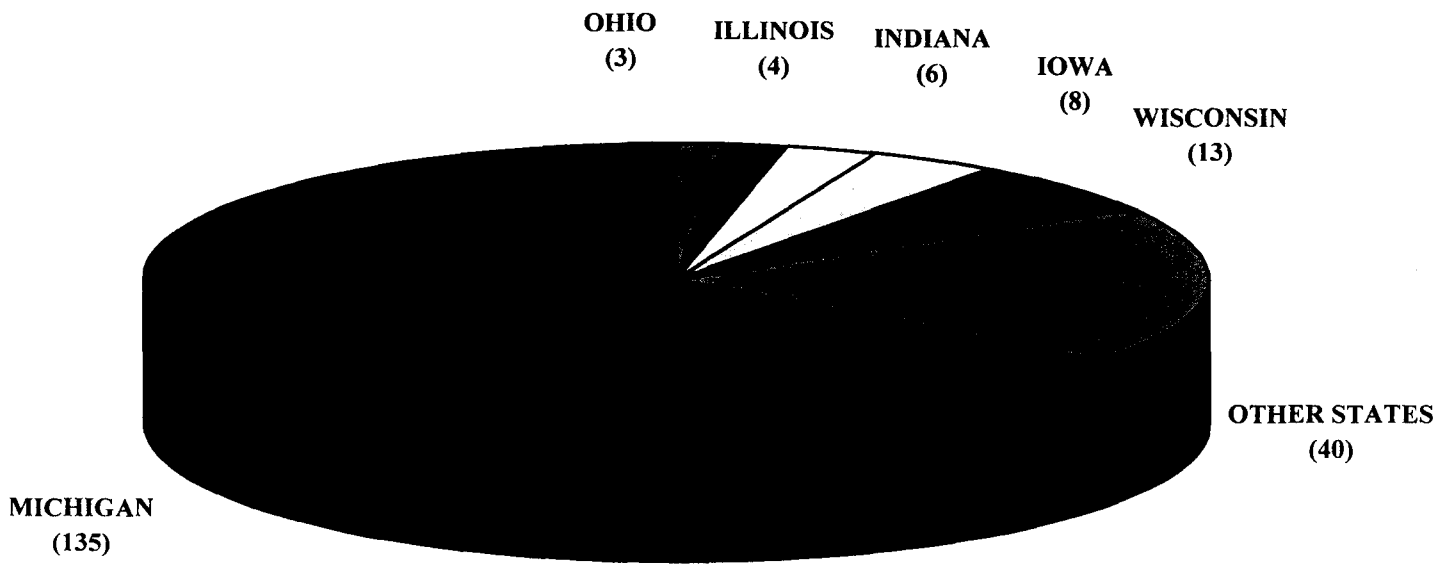
NORTHEAST
Connecticut
Massachusetts
New Hampshire
New Jersey
Pennsylvania
Rhode Island

SOUTHEAST
Alabama
Florida
Louisiana
North Carolina
South Carolina
Virginia
West Virginia

MIDWEST
Illinois
Indiana
Iowa
Kansas
Kentucky
Michigan
Minnesota
Missouri
Nebraska
Ohio
Tennessee
Wisconsin

SOUTHWEST & WEST
Arizona
California
Colorado
Oklahoma
Texas
Utah

WELDING ENGINEERING TECHNOLOGY
STATES WITH CONCENTRATIONS OF ALUMNI



States with Concentrations of Welding Engineering Technology Alumni 2000

WELDING ENGINEERING TECHNOLOGY INTERNATIONAL ASSIGNMENT LOCATIONS OF ALUMNI

ASIA
China
India
Japan
Russia
Taiwan
Thailand

AFRICA
South Africa

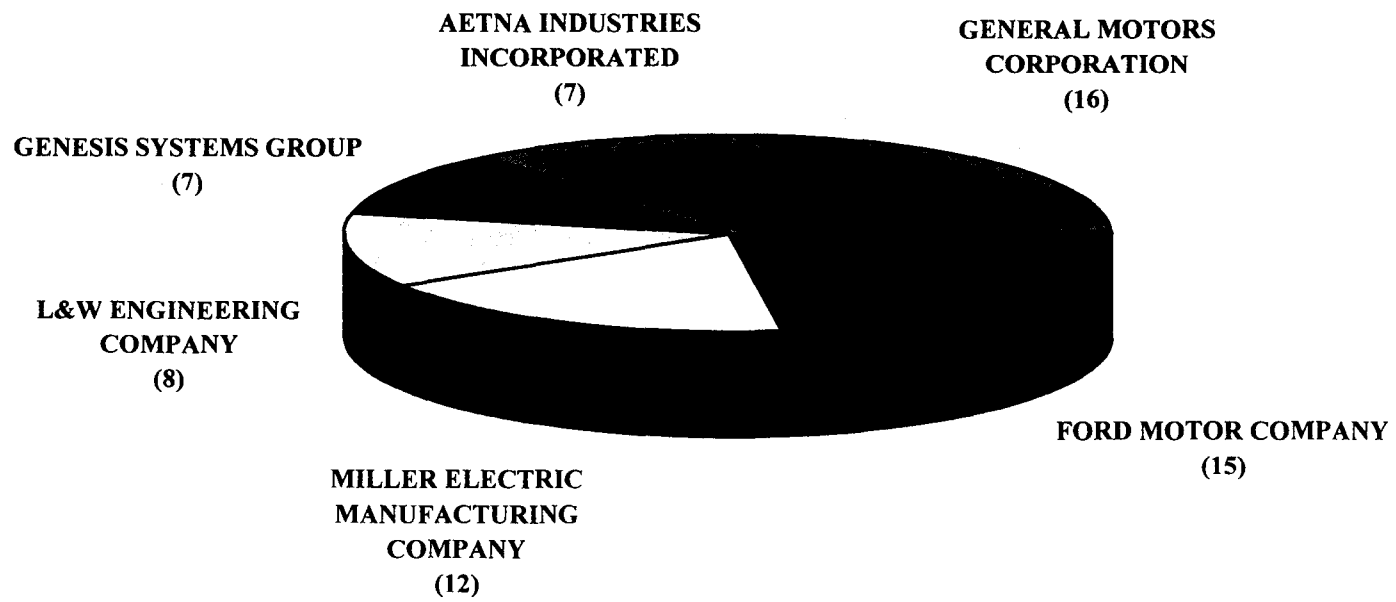
AUSTRALIA
Australia

EUROPE
England
France
Germany
Holland
Italy
Spain
Sweden

NORTH AMERICA
Canada
Mexico

SOUTH AMERICA
Brazil

WELDING ENGINEERING TECHNOLOGY
LARGEST EMPLOYERS OF GRADUATES



WELDING ENGINEERING TECHNOLOGY EMPLOYERS

ABB Flexible Automation, Auburn Hills, MI
Acceleron Incorporated, East Granby, CT
Acemco Incorporated, Muskegon, MI
Acutus Industries, Pontiac, MI
Accubilt Incorporated, Jackson, MI
AccuData, Incorporated, Jackson, MI
Action Automation Incorporated, Fraser, MI
Advanced Robotic Concepts, Garden City, MI
Aerotek, Various Locations
Aetna Industries, Incorporated, Centerline, MI
AGA Gas & Welding, Grand Rapids, MI
Air Liquide America Corporation, Various Locations
Aircraft Technology, Incorporated, Daina, FL
Alcan Automotive Structures, Southfield, MI
Allied Signal, Spartanburg, SC
Allied Technical Services, Midland, MI
American Seating Company, Grand Rapids, MI
American Axle Manufacturing, Various Locations
American Linen, Denver, CO
AMTROL Incorporated, West Warwick, RI
A.O. Smith Corporation, Rockford, IL
AP Parts Manufacturing Company, Various Locations
Argus & Associates Incorporated, Wixom, MI
Arvin Industries, Pulaski, TN
Atlantic Tool and Die, Strongsville, OH
Baker Hughes Process Equipment Corporation, Foxboro, MA
Benteler Automotive Corporation, Various Locations
Black & Decker Corporation, Mt. Clemens, MI
BMY Corporations, York, PA
Bolt Design Company, Midland, MI
Bradford White Corporation, Middleville, MI
Candid Logic Incorporated, Madison Heights, MI
Case Corporation, Various Locations
Center Manufacturing Incorporated, Byron Center, MI
Clark Manufacturing Company, Traverse City, MI
Cloos Robotic Welding, Incorporated, Schaumburg, IL
CMI International, McDaniel Tank Division, Holly, MI
Columbus McKinnon Corporation, Muskegon, MI
Copeland Corporation, Sidney, OH
CRC Evans Corporation, Houston, TX

WELDING ENGINEERING TECHNOLOGY EMPLOYERS

DaimlerChrysler Corporation, Various Locations
Dana Corporation, Various Locations
Delphi Automotive Systems, Saginaw, MI
Deneb Robotics, Troy, MI
DCT Incorporated, Warren, MI
Douglas Autotech Corporation, Bronson, MI
Dura Automotive Systems Incorporated, East Jordan, MI
Dow Chemical Corporation, Midland, MI
Edison Welding Institute, Columbus, OH
Engineering Manufacturing Services, Madison Heights, MI
Fanuc Robotics, Rochester Hills, MI
Ferranti Sciaky International, Chicago, IL
Ferris State University, Big Rapids, MI
Fischer Welding, Troy, MI
Fleet Engineers Incorporated, Muskegon, MI
Ford Motor Company, Various Locations
Gabriel Incorporated, Pulaski, TN
Gencorp Automotive, Logansport, IN
General Motors Corporation, Various Locations
Genesis Systems Group, Davenport, IA
Gill Manufacturing Incorporated, Grand Rapids, MI
Goshen Industries, Goshen, IN
GHSP, Grand Haven, MI
Grand Rapids Community College, Grand Rapids, MI
Hart & Cooley, Holland, MI
Hess Engineering Incorporated, Niles, MI
Hobart Brothers Company, Troy, OH
Hoke Incorporated, Spartanburg, SC
H.R.U. Incorporated, Various Locations
Hydro Automotive Structures North America Incorporated, Holland, MI
Impact Engineering, Jackson, MI
Integrated Metal Technology Incorporated, Spring Lake, MI
ITT Automotive Group, Various Locations
John Deere Incorporated, Various Locations
Johnson Controls, Various Locations
Kawasaki Robotics Incorporated, Wixom, MI
K & M Fabrication, Cassopolis, MI
Kuka Robot Systems Corporation, Sterling Heights, MI
L & W Engineering Corporation, Various Locations
Laser Processing Corporation, Morgantown, WV

WELDING ENGINEERING TECHNOLOGY EMPLOYERS

Lear Corporation, Various Locations
Lenawee Stamping Corporation, Tecumseh, MI
Lewis & Saunders Incorporated, Laconia, NH
Liberty Engineering Company, CBI Transportation Group, Troy, MI
Lift Tech International, Incorporated, Muskegon, MI
Lincoln Electric Company, Various Locations
Lockheed-Martin, Various Locations
Lob Dell Emery Corporation, Alma, MI
Mark One Corporation, Gaylord, MI
Mascoetech Stamping Technologies, Rochester Hills, MI
Mazda Motors Corporation, Flat Rock, MI
Means Industries, Incorporated, Saginaw, MI
Metal Standard Corporation, Holland MI
Michigan Arc Products, Troy, MI
MicroAlloying International Incorporated, Houston, TX
Miller Electric Manufacturing Company, Various Locations
Miller Welding Supply Company, Grand Rapids, MI
Modern, Engineering, Warren, MI
MSI Stamping, Battle Creek, MI
Nachi Robotic Systems Incorporated, Novi, MI
National Element Incorporated, Troy, MI
National Standard, Niles, MI
Neway Anchor Lok, Muskegon, MI
Newport News Shipbuilding, Newport News, VA
Nissan Motors Corporation, Nashville, TN
Non-Destructive Testing Group, Caledonia, MI
Northern Tube, Incorporated, Pinconning, MI
Ogihara America Corporation, Howell, MI
OIK Industries, Kalamazoo, MI
Olofsson Corporation, Fabrication Division, Kincheloe, MI
OTD Corporation, South Bend, IN
Oxford Automotive, Troy, MI
Pandrol Jackson Corporation, Ludington, MI
Paradigm International Incorporated, Union Lake, MI
Precision Robotics & Engineering Incorporated, Grand Rapids, MI
Progressive Systems Incorporated, Auburn Hills, MI
RAMCO Manufacturing Company, Auburn, IN
Rich Manufacturing Corporation, Grandbury, NJ
Robotic Production Technology, Madison Heights, MI
Rolls Royce Allison, Indianapolis, IN

WELDING ENGINEERING TECHNOLOGY EMPLOYERS

Roy Smith Company, Detroit, MI
RWC, Incorporated, Bay City, MI
Saginaw Machine Systems, Troy, MI
Smith Welding Supply, Sterling Heights, MI
South West Mobile Systems, West Plains, MO
Special Welding Services Incorporated, Saginaw, MI
Stageright Corporation, Clare, MI
STC Industries, Sterling Heights, MI
Steelcase Corporation Grand Rapids, MI
Stoody Company, Bowling Green, KY
Tech Welding Corporation, Troy, MI
Technical Solutions, Evart, MI
Tenneco Corporation, Various Locations
The Dow Chemical Company, Midland, MI
Thermadyne Industries, Bowling Green, KY
Thrall Car, Clinton, IL
Total Petroleum Corporation, Alma, MI
Tower Automotive, Various Locations
Toyota Corporation, Various Locations
TRW Automotive, Queen Creek, AZ
Union Pump Corporation, Battle Creek, MI
United Technologies, Pratt and Whitney Division, East Hartford, CT
U.S. Manufacturing Corporation, Lexington, MI
US Tool and Die, Pittsburgh, PA
Utica Enterprises, Shelby Township, MI
Viscal, Angola, IN
Voyager Products, Elkhart, IN
Voest Alpine Services & Technologies, Lindon, UT
Vulcan Industries, Sturgis, MI
Welding Engineering Supply Company Incorporated, Prichard, AL
West Shore Welding Services, Hart, MI
Wilson Automation Company, Warren, MI
Wohlert Corporation, Lansing, MI
Yale Corporation, Material Handling Division, Greenville, NC
Yamaha Motor Manufacturing Corporation, Newnan, GA
Yamakawa Corporation, Portland, TN

SECTION 9

BENEFACTORS

WELDING ENGINEERING TECHNOLOGY DEPARTMENT
PHOENIX SOCIETY MEMBERS

The Phoenix Society is Ferris State University's highest honorary level which recognizes donors whose gifts are valued at $100,000 or more

ORGANIZATION	INDUCTED	GIFT DESCRIPTION
American Welding Society Detroit Section	**1998/1999**	**Scholarships**
Genesis Systems Group Davenport, Iowa	**1998/1999**	**Robotic Workcell**
Miller Electric Manufacturing Appleton, Wisconsin	**1998/1999**	**Welding Equipment**

WELDING ENGINEERING TECHNOLOGY DEPARTMENT CORPORATE BENEFACTORS

CONSUMABLES

Abicor Binzel, Frederick, MD
AC Delco, Coopersville, MI
AccuData Incorporated, Jackson, MI
American Welding Society, Detroit Section
Bradford White Corporation, Middleville, MI
Brown Machine, Beaverton, MI
Dake Incorporated, Grand Haven, MI
Detroit Edison, Detroit, MI
Ford Motor Company, Dearborn, MI
General Motors Corporation, Warren, MI
Integrated Metals, Spring Lake, MI
Lietelt Iron Works, Grand Rapids, MI
Morbark, Winn, MI
Saginaw Control, Saginaw, MI
Sparta Sheet Metal, Grand Rapids, MI
Steelcase North American, Grand Rapids, MI
Van Dam Iron Works, Grand Rapids, MI

EQUIPMENT

Black & Decker, Warren Division, Detroit, MI
Convergent Energy, Stubridge, MA
DCT Incorporated, Warren, MI
Flex Cable and Furnace Products, Troy, MI
Genesis Systems Group, Davenport, IA
GWI Engineering Division, Grand Rapids, MI
Hobart Brothers Company, Troy, OH
Koike Aronson Incorporated, Arcade, NY
Kuka Welding Systems + Robot Corporation, Sterling Heights, MI
Laser Machining Incorporated, Somerset, WI
Miller Electric Manufacturing Company, Appleton, WI
Medar, Farmington Hills, MI
Roman Manufacturing Incorporated, Grand Rapids, MI
Savair Incorporated, St. Clair Shores, MI
Square D Company, Troy, MI
The Lincoln Electric Company, Cleveland, OH
Tregakiss, Limited, Windsor, Ontario, Canada

OTHER GIFTS

Consumers Power, Jackson, MI

SECTION 10

STUDENT OF THE YEAR

WELDING ENGINEERING TECHNOLOGY
STUDENT OF THE YEAR

STUDENT NAME	YEAR	CURRENT POSITION
Bill Powell	1986	Manufacturing Engineer Lockheed-Martin Corporation Fort Worth, TX
Randy Hotinsky	1987	Manufacturing Engineer Neway Anchor Lok Muskegon, MI
Rick Moe	1988	Unknown
Tim Ederer	1989	International Engineer Steelcase Corporation Grand Rapids, MI
Harlon Neumann	1990	Project Engineer Genesis Systems Group Davenport, IA
Jon Root	1991	Plant Engineer L & W Engineering Holland, MI
Rick Leow	1992	Manufacturing Engineer GHSP Grand Haven, MI
Robert Jozwiak	1993	Welding Engineer American Axle Manufacturing Detroit, MI
Todd McEllis	1994	Welding Engineer AccuData Automated Systems Jackson, MI
Tim Ruth	1995	Process Engineer Ford Motor Company Dearborn, MI

WELDING ENGINEERING TECHNOLOGY
STUDENT OF THE YEAR

STUDENT NAME	YEAR	CURRENT POSITION
Robert Taylor	1996	Welding Engineer Laser Processing Corporation Morgantown, WV
Christopher Serafin	1997	Welding Engineer Amtrol Incorporated West Warwick, RI
Galen White	1998	Welding Engineer Miller Electric Manufacturing Appleton, WI
Brent Williams	1999	Welding Engineer Miller Electric Manufacturing Appleton, WI
Nathan Stroven	2000	Application Engineer Genesis Systems Group Davenport, IA