

**Key Demand Occupations – 2012, 2014
Great Lakes Bay Region, MI, USA**

Education	Title / Description / Key Skills	Projected Job Openings	% Job Growth 2012	Hourly Wage
Construction / Trades / Production Occupations				
General and Operations Managers (11-1021)		220	12.9%	\$33.93
Work Exp. + Bachelor's	Plan, direct, or coordinate the operations of companies or public and private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources. Key Skills: Active Listening, Management of Personnel Resources, Time Management, Judgment & Decision Making, Monitoring.			
Cost Estimators (13-1051)		45	16.1%	\$23.68
Work Exp. in Related Occupation	Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured. Key Skills: Active Listening, Reading Comprehension, Mathematics, Time Management, Writing			
Managers of Construction Trades & Extraction Workers (47-1011)		100	9.9%	\$25.79
Work Exp. in Related Occupation	Directly supervise and coordinate activities of construction or extraction workers. Key Skills: Coordination, Management of Personnel Resources, Time Management, Speaking, Active Listening			
Carpenters (47-2031)		190	12.1%	\$17.15
Long-Term OJT	Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; wood stairways, window and door frames, and hardwood floors. May also install cabinets, siding, drywall and batt or roll insulation. Includes brattice builders who build doors or brattices (ventilation walls or partitions) in underground passageways to control the proper circulation of air through the passageways and to the working places. Key Skills: Mathematics, Time Management, Active Listening, Critical Thinking, Judgment & Decision Making			
Electricians (47-2111)		165	14.9%	\$29.14
Long-Term OJT	Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems. Key Skills: Installation, Active Listening, Reading Comprehension, Troubleshooting, Equipment Selection			
Managers of Mechanics, Installers, and Repairers (49-1011)		65	11.0%	\$30.71
Work Exp. in Related Occupation	Supervise and coordinate the activities of mechanics, installers, and repairers. Excludes team or work leaders. Key Skills: Management of Personnel Resources, Reading Comprehension, Active Listening, Equipment Selection, Installation			
Supervisors of Production & Operating Workers (51-1011)		110	8.6%	\$29.62
Work Exp. in Related Occupation	Supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators. Excludes team or work leaders. Key Skills: Active Listening, Management of Personnel Resources, Reading Comprehension, Instructing, Monitoring			
Machinists (51-4041)		40	10.9%	\$16.62
Long-Term OJT	Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures. Key Skills: Operation & Control, Operation Monitoring, Mathematics, Equipment Selection, Troubleshooting			
Welders, Cutters, Solderers, and Brazers (51-4121)		65	13.0%	\$21.20
Long-Term OJT	Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products. Key Skills: Operation & Control, Equipment Selection, Equipment Maintenance, Mathematics, Operation Monitoring			

Electrical Power-Line Installers and Repairers (49-2095)		90 for MI	3% for MI	\$26.59 for MI
Long-Term OJT	Install or repair cables or wires used in electrical power or distribution systems. May erect poles and light or heavy duty transmission towers. Key Skills: Active Listening, Equipment Selection, Coordination, Equipment Maintenance, Reading Comprehension, Installation, Judgment and Decision Making, Active Learning, Critical Thinking			
Education	Title / Description / Key Skills	Projected Job Openings	% Job Growth 2012	Hourly Wage
Medical Occupations				
Medical and Health Services Managers (11-9111)		60	19.7%	\$38.09
Work Exp. + Bachelor's	Plan, direct, or coordinate medicine and health services in hospitals, clinics, managed care organizations, public health agencies, or similar organizations. Key Skills: Active Listening, Reading Comprehension, Critical Thinking, Monitoring, Speaking			
Registered Nurses (29-1111)		715	17.3%	\$25.91
Associate's	Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. Key Skills: Active Listening, Reading Comprehension, Critical Thinking, Instructing, Speaking, Time Management			
Physical Therapists (29-1123)		40	22.7%	\$35.26
Master's	Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of patients suffering from disease or injury. Key Skills: Active Listening, Instructing, Time Management, Speaking, Critical Thinking			
Respiratory Therapists (29-1126)		50	25.3%	\$22.14
Associate's	Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment. Key Skills: Active Listening, Instruction, Reading Comprehension, Critical Thinking, Monitoring			
Cardiovascular Technologists and Technicians (29-2031)		45	25.6%	\$21.47
Associate's	Conduct tests on pulmonary or cardiovascular systems of patients for diagnostic purposes. May conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary-functions, lung capacity, and similar tests. Includes vascular technologists. Key Skills: Active Listening, Reading Comprehension, Instruction, Active Learning, Speaking			
Medical Records and Health Information Technicians (29-2071)		80	28.4%	\$16.23
Associate's	Compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the health care system. Process, maintain, compile, and report patient information for health requirements and standards. Key Skills: Active Listening, Reading Comprehension, Time Management, Speaking, Writing			
Surgical Technologists (29-2055)		40	18.0%	\$17.63
Post-Secondary Vocational Training	Assist in operations, under the supervision of surgeons, registered nurses, or other surgical personnel. May help set up operating room, prepare and transport patients for surgery, adjust lights and equipment, pass instruments and other supplies to surgeons and surgeon's assistants, hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments. Key Skills: Active Listening, Active Learning, Critical Thinking, Equipment Selection, Coordination			
Licensed Practical & Licensed Vocational Nurses (29-2061)		50	4.7%	\$16.71
Post-Secondary Vocational Training	Care for ill, injured, convalescent, or disabled persons in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required. Key Skills: Active Listening, Reading Comprehension, Time Management, Writing, Active Learning			
Pharmacy Technician (29-2052)		600 for MI	27% for MI	\$13.25 for MI
Post-Secondary Vocational Training	Prepare medications under the direction of a pharmacist. May measure, mix, count out, label, and record amounts and dosages of medications. Key Skills: Active Listening, Active Learning, Service Orientation, Reading Comprehension, Mathematics, Time Management, Learning Strategies, Writing			

Education	Title / Description / Key Skills	Projected Job Openings	% Job Growth 2014	2007 Hourly Wage
Directly Related Solar Manager Occupations				
Computer and Information Systems Managers (11-3021)		26	12.0	\$40.26
Work Exp. + Bachelor's	Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming. Key Skills: Critical Thinking, Active Listening, Judgment and Decision Making, Management of Personnel, Resources Systems, Analysis, Reading, Comprehension, Speaking, Monitoring, Social Perceptiveness			
Cost Estimators (13-1051)		45	16.1%	\$23.18
Work Exp. in Related Occupation	Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured. Key Skills: Active Listening, Reading Comprehension, Mathematics, Time Management, Writing			
Engineering Managers (11-9041)		15	7.8	\$34.76
Work Exp. + Bachelor's	Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields. Key Skills: Critical Thinking Judgment and Decision Making Reading Comprehension Active Listening Speaking Complex Problem Solving Monitoring Negotiation Social Perceptiveness			
Financial Managers (11-3031)		28	4.1%	\$35.29
Bachelor's	Plan, direct, and coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment. Key Skills: Time Management, Instructing, Management of Personnel Resources, Reading Comprehension, Active Listening, Monitoring, Service Orientation, Mathematics, Active Learning, Judgment and Decision Making			
General and Operations Managers (11-1021)		193	9.6%	\$28.85
Work Exp. + Bachelor's	Plan, direct, or coordinate the operations of companies or public and private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources. Key Skills: Active Listening, Management of Personnel Resources, Time Management, Monitoring, Judgment and Decision Making, Reading Comprehension, Speaking, Management of Financial Resources, Active Learning, Persuasion			
Human Resources Managers (11-3049)		8	15.4%	\$23.94
Work Exp. + Bachelor's	This is managerial work planning, managing, and coordinating human resource management activities of an agency or component or program area to maximize the strategic use of human resources and maintain functions such as employee classification and compensation, recruitment, personnel policies, and regulatory compliance. This includes all managers not listed separately under human resources. Human Resources Management also includes labor studies and labor and industrial relations. Key Skills: Negotiation, Reading Comprehension, Time Management, Learning Strategies, Writing, Speaking, Implementation Planning, Management of Personnel, Resources, Instructing, Coordination, Active Listening, Information Gathering, Systems Evaluation, Information Organization			
Industrial Production Managers (11-3051)		1	0.4%	\$39.71
Work Exp. + Bachelor's	Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications. Key Skills: Active Listening, Judgment and Decision Making, Critical Thinking, Reading Comprehension, Management of Personnel Resources, Coordination, Monitoring, Time Management, Complex Problem Solving, Speaking			
Purchasing Managers (11-3061)		-1	-1.2%	\$35.88
Bachelor's	Plan, direct, or coordinate the activities of buyers, purchasing officers, and related workers involved in purchasing materials, products, and services. Include wholesale or retail trade merchandising managers and procurement managers. Key Skills: Critical Thinking, Active Listening, Judgment and Decision Making, Reading Comprehension, Active Learning, Management of Material Resources, Negotiation			

Education	Title / Description / Key Skills	Projected Job Openings	% Job Growth 2012	2007 Hourly Wage
Directly Related Solar Physical Sciences Occupations				
Biological Technician (19-4021)		101 for MI	9.4% for MI	\$17.20 for MI
Associate's	Assist biological and medical scientists in laboratories. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, make observations, and calculate and record results. May analyze organic substances, such as blood, food... Key Skills: Science, Reading, Comprehension, Instructing, Active Learning, Learning Strategies, Time Management, Active Listening, Mathematics, Quality Control, Analysis, Speaking			
Chemical Technician (19-4031)		6	1.9%	\$18.66
Associate's	Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for purposes, such as research and development of new products or processes, quality control... Key Skills: Science, Reading, Comprehension, Quality Control, Analysis, Mathematics, Operation Monitoring, Active Listening, Critical Thinking, Time Management, Writing			
Chemist (19-2031)		-1	-0.4%	\$30.23
Bachelor's	Conduct qualitative and quantitative chemical analyses or chemical experiments in laboratories for quality or process control or to develop new products or knowledge. Key Skills: Science, Complex Problem Solving, Reading Comprehension, Quality Control Analysis, Writing, Time Management, Active Listening, Active Learning, Critical Thinking, Speaking			
Environmental Engineer (17-2081)		10	15.2%	\$32.07
Bachelor's	Design, plan, or perform engineering duties in the prevention, control, and remediation of environmental health hazards utilizing various engineering disciplines. Work may include waste treatment, site remediation, or pollution control technology. Key Skills: Reading Comprehension, Speaking, Active Listening, Critical Thinking, Writing, Complex Problem Solving, Judgment and Decision Making, Systems Analysis, Active Learning, Monitoring			
Materials Scientist (19-2032)		26 for MI	8.0% for MI	\$33.73 for MI
Bachelor's	Research and study the structures and chemical properties of various natural and manmade materials, including metals, alloys, rubber, ceramics, semiconductors, polymers, and glass. Determine ways to strengthen or combine materials or develop new materials. Key Skills: Science, Critical Thinking, Complex Problem Solving, Mathematics, Reading, Comprehension, Active Learning, Equipment Selection, Active Listening, Troubleshooting, Time Management			

Education	Title / Description / Key Skills	Projected Job Openings	% Job Growth 2014	2007 Hourly Wage
Directly Related Solar Production Occupations				
Computer Controlled Machine Operator (51-4011)		10	8.5%	\$16.21
Post-Secondary Vocational Training	Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces. Key Skills: Operation Monitoring, Operation and Control, Quality Control Analysis, Active Listening, Mathematics, Instructing, Troubleshooting, Equipment Maintenance, Active Learning, Learning Strategies			
Electrical Equipment Assembler (51-2022)		15	9.8%	\$16.30
Post-Secondary Vocational Training	Assemble or modify electrical or electronic equipment, such as computers, test equipment telemetering systems, electric motors, and batteries. Key Skills: Quality Control, Analysis, Troubleshooting, Equipment Selection, Instructing, Time Management, Reading Comprehension, Learning Strategies, Monitoring, Active Learning, Judgment and Decision Making			
Mixing and blending machine setters, operators (51-9023)		9	7.6%	\$12.24
Post-Secondary Vocational Training	Set up, operate, or tend machines to mix or blend materials, such as chemicals, tobacco, liquids, color pigments, or explosive ingredients. Key Skills: Operation and Control, Equipment Maintenance, Operation Monitoring, Active Listening, Troubleshooting, Active Learning, Equipment Selection, Quality Control, Analysis, Reading Comprehension			
Inspector, Tester, Sorter (51-9061)		-73*	-10.4*	\$24.53
Post-Secondary Vocational Training	*Much of the decrease is due to the loss in automotive manufacturing. Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment. Key Skills: Quality Control Analysis, Active Listening, Reading Comprehension, Instructing, Operation Monitoring, Learning Strategies, Mathematics, Speaking, Active Learning, Time Management			
Extruding and Forming Machine Setters, Operators (51-4072)		NA	NA	\$14.26
Post-Secondary Vocational Training	Set up, operate, or tend machines that extrude and form continuous filaments from synthetic materials, such as liquid polymer, rayon, and fiberglass. Key Skills: Equipment Maintenance, Operation Monitoring, Operation and Control, Troubleshooting, Active Listening, Reading Comprehension, Critical Thinking, Learning Strategies, Quality Control, Analysis Monitoring			
Machinist (51-4041)		51	8.6%	\$13.93
Post-Secondary Vocational Training	Set up and operate a variety of machine tools to produce precision parts and instruments. Include precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or machinery Key Skills: Operation Monitoring, Operation and Control Monitoring, Active Listening, Critical Thinking, Complex Problem Solving, Coordination, Equipment Maintenance, Judgment and Decision Making, Quality Control, Analysis			
Packaging Machine Operator (51-9111)		32	8.9%	\$11.02
Post-Secondary Vocational Training	Operate or tend machines to prepare industrial or consumer products for storage or shipment. Include cannery workers who pack food products. Key Skills: Reading Comprehension, Quality Control, Analysis, Active Listening, Operation and Control Equipment, Maintenance Coordination, Troubleshooting, Time Management, Judgment and Decision Making			
Structural Metal Fabricator (51-2041)		3	6.5%	\$15.96
Post-Secondary Vocational Training	Fabricate, lay out, position, align, and fit parts of structural metal products. Key Skills: Active Listening, Time Management, Equipment Selection, Quality Control, Analysis, Mathematics, Equipment Maintenance, Speaking, Operation Monitoring, Reading Comprehension			
Semiconductor Processors (51-9141)		NA	NA	\$15.32
Post-Secondary Vocational Training	Perform any or all of the following functions in the manufacture of electronic semiconductors: load semiconductor material into furnace; saw formed ingots into segments; load individual segment into crystal growing chamber and monitor controls; locate crystal axis in ingot using x-ray equipment and saw ingots into wafers; clean, polish, and load wafers into series of special purpose furnaces, chemical baths, and equipment used to form circuitry and change conductive properties. Key Skills: Reading Comprehension, Time Management, Watching, Active Learning, Troubleshooting, Equipment Maintenance, Quality Control Analysis, Learning Strategies, Active Listening, Judgment and Decision Making			

Education	Title / Description / Key Skills	Projected Job Openings	% Job Growth 2014	2007 Hourly Wage
Directly Related Solar Production Occupations Cont.				
Tool & Die Maker (51-4111)		-1,288 for MI*	-7.1% for MI*	\$22.57 for MI
Post-Secondary Vocational Training	*Much of the decrease is due to the loss in automotive manufacturing. Analyze specifications, lay out metal stock, set up and operate machine tools, and fit and assemble parts to make and repair dies, cutting tools, jigs, fixtures, gauges, and machinists' hand tools. Key Skills: Equipment Selection, Mathematics, Troubleshooting, Active Learning, Complex Problem Solving, Coordination, Critical Thinking, Repairing, Reading Comprehension, Learning Strategies			
Welder, Cutter Solderer, Brazier (51-4121)		13	4.2%	\$21.85
Post-Secondary Vocational Training	Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products. Key Skills: Reading Comprehension, Quality Control, Analysis, Learning Strategies, Time Management, Active Listening			
Chemical Process Operator		100-150*	-	\$14.00-\$16.00*
Post-Secondary Vocational Training	*Information provided by Great Lakes Bay Region Michigan Works! Work with the handling, transportation, transfer, storage and disposal of chemicals and other materials in compliance with all state and federal regulations; Operate, troubleshoot, monitor, and control both continuous and batch processes; Assemble, disassemble and stage reactor systems; Management of valving stations and headers: Understanding and use of pneumatic tools and equipment; Connect, disconnect, load, unload and manage tanker transfer stations; Uphold all site standards regarding health, safety, and the environment; Interface with engineers, tradespersons, technicians, and co-workers involved with these processes; Perform normal equipment maintenance and instrument calibration; Handling of medium-to-heavy product and equipment. Key Skills: Knowledge of Chemistry and Math, Strong Communication Skills, Technical, Mechanical and Physical Aptitude, Focus on Safety, Flexibility, Teamwork			
Instrumentation Technician – combination of four job classifications				
Electronic Engineering Technicians (17-3023)		315 for MI	7.4% for MI	\$24.14 for MI
Post-Secondary Vocational Training	Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions. Key Skills: Critical Thinking, Troubleshooting, Complex Problem Solving, Reading Comprehension, Speaking, Systems Analysis, Writing, Active Learning, Active Listening, Equipment Maintenance			
Control and Valve Installers and Repairers, Except Mechanical Door (49-9012)		1 for MI	0.1% for MI	\$24.82 for MI
Post-Secondary Vocational Training	Install, repair, and maintain mechanical regulating and controlling devices, such as electric meters, gas regulators, thermostats, safety and flow valves, and other mechanical governors. Key Skills: Active Listening, Reading Comprehension, Troubleshooting, Equipment Maintenance, Time Management, Critical Thinking, Equipment Selection, Service Orientation, Active Learning			
Maintenance and Repair Workers, General (49-9042)		2,302 for MI	5.2% for MI	\$18.13 for MI
Post-Secondary Vocational Training	Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs. Key Skills: Equipment Maintenance, Repairing, Troubleshooting, Active Listening, Installation, Equipment Selection, Critical Thinking, Reading Comprehension, Operation Monitoring, Coordination			
Environmental Science and Protection Technician, Including Health (19-4091)		296 for MI	21% for MI	\$19.19
Post-Secondary Vocational Training	Performs laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health. Under direction of an environmental scientist or specialist, may collect samples of gases, soil, water, and other materials for testing and take corrective actions as assigned. Key Skills: Active Listening, Reading Comprehension, Critical Thinking, Speaking, Writing, Judgment and Decision Making, Active Learning, Complex Problem Solving, Coordination, Mathematics			

Education	Title / Description / Key Skills	Projected Job Openings	% Job Growth 2014	2007 Hourly Wage
Directly Related Solar Installation / Maintenance / Repair Occupations				
First line supervisors/managers of mechanics, installers, and repairers (49-1011)		18	3.1%	\$30.96
Post-Secondary Vocational Training	Supervise and coordinate the activities of mechanics, installers, and repairers. Key Skills: Coordination, Critical Thinking, Management of Personnel, Resources, Active Listening, Monitoring, Social Perceptiveness, Time Management, Reading Comprehension, Speaking, Complex Problem Solving			
Electrical and Electronic Engineering Technicians (17-3023)		7	8.9	\$25.29
Post-Secondary Vocational Training	Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use. Key Skills: Troubleshooting, Mathematics, Critical Thinking, Reading Comprehension, Active Listening			
Electronic Repairer (49-2094)		148 for MI	9.3% for MI	\$17.08 for MI
Post-Secondary Vocational Training	Repair, test, adjust, or install electronic equipment, such as industrial controls, transmitters, and antennas. Key Skills: Repairing, Troubleshooting, Reading Comprehension, Installation, Active Listening, Operation Monitoring, Coordination, Equipment Maintenance, Critical Thinking, Active Learning			
Heavy Equipment Mechanic (49-3042)		9	8.5%	\$21.57
Post-Secondary Vocational Training	Diagnose, adjust, repair, or overhaul mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders, and conveyors, used in construction, logging, and surface mining. Key Skills: Troubleshooting, Repairing Equipment, Maintenance, Equipment Selection, Installation, Operation Monitoring, Operation and Control, Complex Problem Solving, Judgment and Decision Making, Critical Thinking			
Control and Valve Installers and Repairers, Except Mechanical Door (49-9012)		3 for MI	0.2% for MI	\$13.43 for MI
Post-Secondary Vocational Training	Install, repair, and maintain mechanical regulating and controlling devices, such as electric meters, gas regulators, thermostats, safety and flow valves, and other mechanical governors. Key Skills: Active Listening, Installation, Reading Comprehension, Troubleshooting, Equipment Maintenance, Time Management, Critical Thinking, Equipment Selection, Service Orientation, Active Learning			
Maintenance and repair workers, general (49-9042)		170	10.9%	\$17.01
Post-Secondary Vocational Training	Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining, etc. Key Skills: Equipment Maintenance, Repairing, Troubleshooting, Active Listening, Installation, Equipment Selection, Critical Thinking, Reading Comprehension, Operation Monitoring, Coordination			
Machinery Maintenance Worker (49-9043)		169 for MI	4.6% for MI	\$21.63 for MI
Post-Secondary Vocational Training	Lubricate machinery, change parts, or perform other routine machinery maintenance. Key Skills: Repairing, Equipment Maintenance, Troubleshooting, Equipment Selection, Installation, Reading Comprehension, Active Listening, Active Learning, Learning Strategies, Operation and Control			
Plumber, Pipefitter, Steamfitter (47-2152)		26	3.1%	\$31.23
Post-Secondary Vocational Training Licensing	Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems. Key Skills: Installation, Instructing, Critical Thinking, Active Learning, Equipment Selection			

Education	Title / Description / Key Skills	Projected Job Openings	% Job Growth 2014	2007 Hourly Wage
Indirectly Related Solar Construction Occupations				
Carpenter (47-2031)		94	5.6%	\$17.24
Post-Secondary Vocational Training	Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; wood stairways, window and door frames, and hardwood floors. May also install cabinets, siding, drywall and batt or roll insulation. Include brattice builders who build doors or brattices (ventilation walls or partitions) in underground passageways to control the proper circulation of air through the passageways and to the working places. Key Skills: Mathematics, Time Management, Critical Thinking, Active Listening, Judgment and Decision Making			
Electrician (47-2111)		3	0.3%	\$30.42
Post-Secondary Vocational Training, Licensing	Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems. Key Skills: Critical Thinking, Active Listening, Complex Problem Solving, Judgment and Decision Making, Operation Monitoring, Quality Control, Analysis, Repairing, Troubleshooting, Monitoring, Reading Comprehension			
Sheet Metal Worker (47-2211)		11	3.0%	\$26.09
Post-Secondary Vocational Training	Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. Work may involve any of the following: setting up and operating fabricating machines to cut, bend, and straighten sheet metal. Key Skills: Mathematics, Active Listening, Equipment Selection, Installation, Coordination, Instructing, Writing, Critical Thinking, Reading Comprehension, Speaking			
Structural Iron & Steel Worker (47-2221)		5	3.4%	\$23.50
Post-Secondary Vocational Training	Raise, place, and unite iron or steel girders, columns, and other structural members to form completed structures or structural frameworks. May erect metal storage tanks and assemble prefabricated metal buildings. Key Skills: Active Listening, Coordination, Time Management, Active Learning, Equipment Selection, Mathematics, Speaking, Installation, Equipment Maintenance			

Education	Title / Description / Key Skills	Projected Job Openings	% Job Growth 2014	2007 Hourly Wage
Indirectly Related Solar Computer & IT Occupations				
Computer Programmers (15-1021)		3	1.2	\$29.25
Bachelor's	Convert project specifications and statements of problems and procedures to detailed logical flow charts for coding into computer language. Develop and write computer programs to store, locate, and retrieve specific documents, data, and information. Key Skills: Programming, Critical Thinking, Complex Problem Solving, Active Learning, Reading Comprehension, Learning Strategies, Operations Analysis, Active Listening, Technology Design, Troubleshooting			
Software Engineer (15-1031)		12	15.4%	\$26.46
Bachelor's	Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. Key Skills: Programming, Critical Thinking, Complex Problem Solving, Active Troubleshooting, Judgment and Decision Making, Technology Design, Reading Comprehension, Operations Analysis, Systems Analysis			
Computer Systems Analysts (15-1051)		3,450 for MI	21.1% for MI	\$27.15
Bachelor's	Analyze science, engineering, business, and all other data processing problems for application to electronic data processing systems. Analyze user requirements, procedures, and problems to automate or improve existing systems. Key Skills: Active Learning, Reading, Complex Problem Solving, Critical Thinking, Active Listening, Troubleshooting, Service Orientation, Time Management, Quality Control Analysis			
Network and Computer Systems Administrators (15-1071)		65	20.5%	\$36.17
Bachelor's	Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet system or a segment of a network system. Maintain network hardware and software. Monitor network to ensure network availability for all systems. Key Skills: Reading Comprehension, Active Listening, Critical Thinking, Complex Problem Solving, Speaking, Monitoring Systems, Evaluation, Time Management, Coordination, Judgment and Decision Making			
Network Systems and Data Communications Analysts (15-1081)		61	37.7%	\$23.68
Bachelor's	Analyze, design, test, and evaluate network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, and other data communications systems. Perform network modeling, analysis, and planning. Key Skills: Equipment Selection, Troubleshooting, Complex Problem Solving, Active Listening, Active Learning, Critical Thinking, Installation, Reading Comprehension, Technology Design, Judgment and Decision Making			