Technological Studies Career Outlook 2009-2010

Technological Studies Programs Available at Bemidji State University:

Majors:  Applied Engineering, (B.A.S.); Industrial Technology, (B.S.) Construction Management Specialization; Industrial Technology, (B.S.) Manufacturing Management Specialization; Technology Management, (B.A.S.); Design Technology, (B.S.)—refer to separate Career Outlook for specific placement info

Department Website:  http://www.bemidjistate.edu/academics/departments/technological_studies

Major Highlights:
The Department of Technological Studies offers a variety of programs with a common thematic core centered on using the technological problem-solving model to create new opportunities, design creative solutions to address difficult challenges, and improve operations in business and industry.

The department offers a nationally accredited Bachelor of Science program in Industrial Technology. There are specializations in Construction Management and Manufacturing Management. These degree options offer four-year students the opportunity to prepare for leadership roles in construction and industry.

Students have the option to enroll in the Bachelor of Applied Science program in Applied Engineering or Bachelor of Applied Science in Technology Management, which are “2 plus 2” degree programs that articulate credits with either an Associate of Science or Associate of Applied Science degrees or a Diploma and wish to complete a Bachelor’s degree. These two programs are offered either on-campus for full time students or online part time for working professionals.

The Bachelor of Science in Design Technology offers students a unique opportunity to pursue careers that demand excellence in a combination of technical, creative, and artistic capabilities. Students are able to specialize in Model Design, design for publishing in either print or digital media, or in Exhibit Design, which is another four-year degree unique to Bemidji State University. All Design Technology students benefit from a portfolio review process, a graduation requirement that offers them the opportunity to present their professional portfolios to leaders in their industries from across the nation. For students transferring from a MnSCU Community and/or Technical College with an Associate degree in a related design field, they may be eligible for articulated transfer into the Design Technology program.

Employment Areas:
The "Occupational Outlook Handbook" reports that industrial production managers held about 156,100 jobs in 2008. About 80 percent are employed in manufacturing industries, including fabricated metal product, transportation equipment, and computer and electronic product manufacturing. Construction managers held about 555,100 jobs nationwide in 2008. Graphic designers held about 286,100 jobs in 2008.

Projected Demand for Technological Studies Majors in Minnesota:
The iSeek.org website reports that the growth rate for manufacturing engineering technologists is .5%, with 1,301 currently employed in Minnesota at an average of $25.65 per hour. There are currently 2,560 construction managers employed in Minnesota. The outlook for this classification is good, with a growth of 17.4%. The average salary of construction managers in Minnesota is $41.89. The iSeek.org website reports that graphic design will experience a growth of 5.4%. Graphic designers earn an average of $20.89 per hour.

Projected Demand for Technological Studies Majors Nationwide:
The DISCOVER guidance system reports that the nationwide demand for industrial engineering technicians is expected to grow moderately with a 0.7% expected increase. The average starting salary offered to industrial designers was $46,000 annually in 2009. Construction managers have a moderate expected growth rate of 1.7%. Their reported starting annual salary was $41,000 in 2009. According to the National Association of Colleges and Employers, new construction management graduates at the baccalaureate level were offered average annual starting salaries of $52,000 in 2009.
Graphic designers held about 286,100 jobs in 2008. Most graphic designers worked in specialized design services; advertising and related services; printing and related support activities; or newspaper, periodical, book, and directory publishers. Some designers do freelance work—full time or part time—in addition to holding a salaried job in design or in another occupation. Employment of graphic designers is expected to grow 13 percent, as fast as the average for all occupations from 2008 to 2018, as demand for graphic design continues to increase from advertisers and computer design firms.

Employment prospects for Exhibit Designers are expected to improve in the near future, with O*Net projecting above average growth in the field through 2016 (www.onetcenter.org). According to the Bureau of Labor Statistics, average wages for Exhibit Designers as of May 2008 were $23.40 hourly and $48,660 annually (www.bls.gov).

Placement Information for Technological Studies Graduates:
There are many career opportunities for Bemidji State University technological studies graduates. Of the Bemidji State University 2008-2009 industrial technology B.S. graduates, 85.7% reported obtaining related employment within one year of graduation. This does not include students who were not seeking employment, furthering their education, unavailable, or had unknown status.

A Partial List of Employers Who Have Hired BSU Technological Studies Graduates:

<table>
<thead>
<tr>
<th>Employer Name</th>
<th>Position</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbott Northwestern Hospital</td>
<td>Facilities Manager</td>
<td>Minneapolis, MN</td>
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<tr>
<td>Adayum</td>
<td>Manage VAR Program</td>
<td>Bloomington, MN</td>
</tr>
<tr>
<td>Adolfson &amp; Peterson Construction</td>
<td>Project Engineer</td>
<td>Aurora, CO</td>
</tr>
<tr>
<td>Advanced Research Corporation</td>
<td>Mechanical Technician</td>
<td>White Bear Lake, MN</td>
</tr>
<tr>
<td>Aerospace Welding Industries</td>
<td>Sales/Customer Service</td>
<td>Burnsville, MN</td>
</tr>
<tr>
<td>All Season Vehicles, Inc.</td>
<td>Quality Assurance Inspector</td>
<td>Grand Rapids, MN</td>
</tr>
<tr>
<td>Allweather Roof Company</td>
<td>Tech Representative</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>American Fence &amp; Fabrication</td>
<td>Estimator</td>
<td>West Fargo, ND</td>
</tr>
<tr>
<td>Alexandria Technical College</td>
<td>Diesel Instructor</td>
<td>Alexandria, MN</td>
</tr>
<tr>
<td>API Construction Company</td>
<td>Field Manager</td>
<td>St Paul, MN</td>
</tr>
<tr>
<td>Aveda Corporation</td>
<td>Quality Assurance Supervisor</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Bay Breeze Construction, Inc.</td>
<td>Estimator/Project Manager</td>
<td>Panama City, FL</td>
</tr>
<tr>
<td>Boston Scientific</td>
<td>Senior Laser Manufacturing Technician</td>
<td>Plymouth, MN</td>
</tr>
<tr>
<td>Boston Scientific</td>
<td>Engineer</td>
<td>Maple Grove, MN</td>
</tr>
<tr>
<td>Bemidji State University</td>
<td>Senior Electronics Technician</td>
<td>Bemidji, MN</td>
</tr>
<tr>
<td>Bemidji State University</td>
<td>Industrial Training Coordinator</td>
<td>Bemidji, MN</td>
</tr>
<tr>
<td>Bemidji State University-CRI</td>
<td>Industrial Training Coordinator</td>
<td>Bemidji, MN</td>
</tr>
<tr>
<td>Black &amp; Decker</td>
<td>Model Maker</td>
<td>Bloomington, MN</td>
</tr>
<tr>
<td>Bogart Pederson &amp; Associates</td>
<td>Junior Technician</td>
<td>Becker, MN</td>
</tr>
<tr>
<td>BOMBER Industries</td>
<td>Manager of Production/Manufacturing</td>
<td>Silverthorne, CO</td>
</tr>
<tr>
<td>Bossardt Corporation</td>
<td>Project Engineer</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Boston Scientific-Scimed</td>
<td>Manufacturing Engineer</td>
<td>Maple Grove, MN</td>
</tr>
<tr>
<td>Bradford White Corporation</td>
<td>Industrial Engineer</td>
<td>Middleville, MI</td>
</tr>
<tr>
<td>Carl Construction, Inc.</td>
<td>Project Manager</td>
<td>Missoula, MT</td>
</tr>
<tr>
<td>Centex Rodgers</td>
<td>Project Engineer</td>
<td>Rochester, MN</td>
</tr>
<tr>
<td>CF Design, Inc.</td>
<td>Architectural Drafter</td>
<td>Duluth, MN</td>
</tr>
<tr>
<td>Chase Design</td>
<td>Model Maker</td>
<td>Skaneateles, NY</td>
</tr>
<tr>
<td>Chief Automotive</td>
<td>Manufacturing Engineer</td>
<td>Grand Island, NE</td>
</tr>
<tr>
<td>Christopher &amp; Bank Corporation</td>
<td>Visual Communications Production Spec.</td>
<td>Plymouth, MN</td>
</tr>
<tr>
<td>Circuit Check</td>
<td>Manufacturing Engineer</td>
<td>Maple Grove, MN</td>
</tr>
<tr>
<td>Circuit Check, Inc.</td>
<td>Project Engineer</td>
<td>Maple Grove, MN</td>
</tr>
<tr>
<td>Cirrus Design Corporation</td>
<td>Composite Bonding Tech</td>
<td>Duluth, MN</td>
</tr>
<tr>
<td>City of Bemidji</td>
<td>Engineering Technician II</td>
<td>Bemidji, MN</td>
</tr>
<tr>
<td>CNBC</td>
<td>Warehouse Manager</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Compaq Computers</td>
<td>Model Designer</td>
<td>Houston, TX</td>
</tr>
<tr>
<td>Comstock Construction Company</td>
<td>Construction Manager</td>
<td>Wahpeton, ND</td>
</tr>
<tr>
<td>Concept Machine Tool</td>
<td>Sales Engineer</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Concrete, Inc.</td>
<td>Drafter</td>
<td>Grand Forks, ND</td>
</tr>
<tr>
<td>Construction Analysis &amp; Management, Inc.</td>
<td>Project Coordinator</td>
<td>Brainerd, MN</td>
</tr>
<tr>
<td>Cretex Concrete Products North, Inc.</td>
<td>Customer Coordinator</td>
<td>Fargo, ND</td>
</tr>
</tbody>
</table>
A Partial List of Employers Who Have Hired BSU Technological Studies Graduates (Continued):

Czarnowski
Dam Site Design
Deluxe Corporation
Design Concepts
Design Trust
Douglas Machine
Douglas Machine
Douglas Machine LLC
Downare LLC
EAPC Architects Engineers
Electric Power Door
Electromed, Inc.
Emerson Process
Excel
Fagen, Inc.
Fagen, Inc.
Fagen, Inc.
Fastenal
FCX Performance
Film Tech
Flame Metals
Freeburg & Grund, Inc.
Garmin International
General Mills
General Motors
Global Finishing Solutions
Gobel Fixture Company
Goodrich Sensors & Integrated Systems
Gopler Resource Corporation
GSI Lumonics
Haack Engineering
Hanson Electric
Heartland Tile & Marble, Inc.
Homes
Higgins Heating
HOK Sport
Honeywell
Hunt Technologies
Hutchinson Technology, Inc.
Hutchinson Technology, Inc.
Hy-Tec Construction
Ignition
Indian Health Service
Institute for Environmental Assessment
ITV Heartland
J. L. Schwieters Construction
JMark
Johnson Controls
Keenan's Cabinets of Distinction
Kellington Construction, Inc.
Ken's Concrete and Carpentry
Kolher Company
Korbel Associates
Kraus Anderson
Kuepers, Inc.
Langer Construction
M.A. Mortenson Company

Designer
Prototype Model Maker
Senior Product Engineer
Prototype Specialist
Owner/Manager
Applications Engineer
Machine Lead
Project Engineer
Assistant Designer
Foreman
Industrial CAD Technician
Engineer
Manufacturing/Quality Assurance
System Controls Administrator
Model Maker
Field Engineer
Project Engineer
Project Engineer
Machinist
Account Manager
Maintenance Technician
Quality Inspector/Auditor
Engineering Technician
Prototype Specialist
Design/Model Maker
Robotics Engineer
Design Drafting Engineer
Pricing Coordinator
Field Service Engineer
Process Technician
Manufacturing Engineer
Mechanical Designer
Estimator
Management
Co-Owner
Owner
Architectural Model Maker
Manufacturing Engineer
Product Specialist
Manufacturing Engineer
Tooling Supplier Engineer
Job Superintendent
Model Builder
Engineering Tech/Construction Inspector
Supervisor
Basic Machine Builder
Estimator
Engineer Project Manager
Model Maker-Prototyping
Job Site Foreman
Project Engineer
Project Manager/Foreman
Engineer Analyst
Consultant
Assistant Project Manager
Project Manager
Assistant Project Manager
Safety Engineer

Las Vegas, NV
Battle Creek, MI
Shoreview, MN
Madison, WI
Hackensack, MN
Alexandria, MN
Alexandria, MN
Alexandria, MN
Alexandria, MN
Laporte, MN
Grand Forks, ND
Hibbing, MN
New Prague, MN
Detroit, MI
Minneapolis, MN
Granite Falls, MN
Granite Falls, MN
Wyoming
Winona, MN
Minneapolis, MN
Minneapolis, MN
Rogers, MN
Bemidji, MN
Olathe, KS
Minneapolis, MN
Duluth, MN
Osseo, WI
Hutchinson, MN
Burnsville, MN
Eagan, MN
Maple Grove, MN
Bemidji, MN
Bemidji, MN
Heim Log
Kenosha, WI
Kelliher, MN
Bemidji, MN
Kansas City, MO
Phoenix, AZ
Pequot Lakes, MN
Hutchinson, MN
Hutchinson, MN
Brainerd, MN
Dallas, TX
Bemidji, MN
Brooklyn Park, MN
Alexandria, MN
Hugo, MN
Plymouth, MN
Holland, MI
Bemidji, MN
Corcoran, MN
McIntosh, MN
Sheboygan, WI
St Louis Park, MN
Duluth, MN
Baxter, MN
W. St. Paul, MN
St. Paul, MN
A Partial List of Employers Who Have Hired BSU Technological Studies Graduates (Continued):

<table>
<thead>
<tr>
<th>Employer</th>
<th>Position</th>
<th>City, State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managed Services, Inc.</td>
<td>Service Technician</td>
<td>St. Louis Park, MN</td>
</tr>
<tr>
<td>Marcy Construction Company</td>
<td>Field Engineer</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Marvin Windows &amp; Doors</td>
<td>Sales Supervisor</td>
<td>Warroad, MN</td>
</tr>
<tr>
<td>Marvin Windows &amp; Doors</td>
<td>Document Control Administrator</td>
<td>Warroad, MN</td>
</tr>
<tr>
<td>Marvin Windows &amp; Doors</td>
<td>Operations Analyst</td>
<td>Warroad, MN</td>
</tr>
<tr>
<td>Mesaba Airlines</td>
<td>Systems Operation Control Center</td>
<td>Eagan, MN</td>
</tr>
<tr>
<td>Michael Smoody Contractor</td>
<td>Supervisor-Commercial Buildings</td>
<td>Las Vegas, NV</td>
</tr>
<tr>
<td>Micro Control Company</td>
<td>Shift Supervisor</td>
<td>Fridley, MN</td>
</tr>
<tr>
<td>Midwest Crane Services, LLC</td>
<td>Crane Operator</td>
<td>Omaha, NE</td>
</tr>
<tr>
<td>Midwest Manufacturing</td>
<td>Truss Designer</td>
<td>Eau Claire, WI</td>
</tr>
<tr>
<td>Midwest Model Makers</td>
<td>Model Maker</td>
<td>Indianapolis, IN</td>
</tr>
<tr>
<td>Minnesota Department of Transportation</td>
<td>Design Technician</td>
<td>Roseville, MN</td>
</tr>
<tr>
<td>Minnesota Pipeline</td>
<td>Terminal Operator</td>
<td>Clearbrook, MN</td>
</tr>
<tr>
<td>Minuti-Ogle</td>
<td>Project Manager</td>
<td>Cottage Grove, MN</td>
</tr>
<tr>
<td>MJ Construction</td>
<td>Construction Manager</td>
<td>Bemidji, MN</td>
</tr>
<tr>
<td>MJ Lorenz Concrete</td>
<td>Project Engineer - Estimator</td>
<td>Glendale, AZ</td>
</tr>
<tr>
<td>Modeled Horizons Inc.</td>
<td>Construction Foreman</td>
<td>Stacy, MN</td>
</tr>
<tr>
<td>Modern Molding, Inc.</td>
<td>Model Maker</td>
<td>Fridley, MN</td>
</tr>
<tr>
<td>Mortenson Construction</td>
<td>CNC Programmer</td>
<td>Delano, MN</td>
</tr>
<tr>
<td>New Page, Inc.</td>
<td>Project Engineer</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Nortech Systems, Inc.</td>
<td>Technician</td>
<td>Duluth, MN</td>
</tr>
<tr>
<td>Nortech Systems, Inc.</td>
<td>Engineer</td>
<td>Thief River Falls, MN</td>
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<tr>
<td>Nortech Systems, Inc.</td>
<td>Quoting Engineer</td>
<td>Bemidji, MN</td>
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<tr>
<td>Nortech Systems, Inc.</td>
<td>Quality Engineer</td>
<td>Bemidji, MN</td>
</tr>
<tr>
<td>Nortech Systems, Inc.</td>
<td>Process Engineer</td>
<td>Bemidji, MN</td>
</tr>
<tr>
<td>Nortech Systems, Inc.</td>
<td>Engineer</td>
<td>Bemidji, MN</td>
</tr>
<tr>
<td>Northern Contours</td>
<td>Process Technician</td>
<td>Bemidji, MN</td>
</tr>
<tr>
<td>Northshore Mining</td>
<td>Supervisor of Production</td>
<td>Fergus Falls, MN</td>
</tr>
<tr>
<td>Northstar Aerospace</td>
<td>General Repair Planner</td>
<td>Silver Bay, MN</td>
</tr>
<tr>
<td>Oscar J Boldt Construction Company</td>
<td>Machinist/Programmer</td>
<td>Duluth, MN</td>
</tr>
<tr>
<td>Outdoor Renovations</td>
<td>Field Engineer</td>
<td>Cloquet, MN</td>
</tr>
<tr>
<td>Parker Corporation</td>
<td>Landscape Designer</td>
<td>Underwood, MN</td>
</tr>
<tr>
<td>Parker Corporation</td>
<td>Manufacturing Engineer</td>
<td>St Paul, MN</td>
</tr>
<tr>
<td>Pella Windows</td>
<td>Senior Design Engineer</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Peterson Sheet Metal</td>
<td>Department Manager</td>
<td>Pella, IA</td>
</tr>
<tr>
<td>Populous</td>
<td>Estimator / Project Manager</td>
<td>Bemidji, MN</td>
</tr>
<tr>
<td>Premier Builders</td>
<td>Model Maker</td>
<td>Kansas City, MO</td>
</tr>
<tr>
<td>Prestige Technical Services</td>
<td>Construction/Project Manager</td>
<td>Duluth, MN</td>
</tr>
<tr>
<td>Proctor &amp; Gamble</td>
<td>Contractor</td>
<td>West Chester, OH</td>
</tr>
<tr>
<td>Q-Shop</td>
<td>Researcher</td>
<td>Cincinnati, OH</td>
</tr>
<tr>
<td>Reed Prototype and Model</td>
<td>Robot Programmer</td>
<td>Minneapolis, MN</td>
</tr>
<tr>
<td>Reineron Construction, Inc.</td>
<td>CAD/CAM Model maker</td>
<td>Austin, TX</td>
</tr>
<tr>
<td>Remada Company</td>
<td>Foreman</td>
<td>Bemidji, MN</td>
</tr>
<tr>
<td>Reptron Manufacturing</td>
<td>Assistant Manager</td>
<td>Eagan, MN</td>
</tr>
<tr>
<td>Rottlund Homes</td>
<td>Process Engineering Technician</td>
<td>Hibbing, MN</td>
</tr>
<tr>
<td>RPM</td>
<td>Superintendent Assistant</td>
<td>Roseville, MN</td>
</tr>
<tr>
<td>RPM</td>
<td>Programmer/Machinist</td>
<td>Austin, TX</td>
</tr>
<tr>
<td>RTC</td>
<td>Model Maker/Computer Technician</td>
<td>Chicago, IL</td>
</tr>
<tr>
<td>Rud Technology</td>
<td>Senior Lead Consultant</td>
<td>Dearborn, MI</td>
</tr>
<tr>
<td>S. J. Louis Construction</td>
<td>Project Manager</td>
<td>St. Cloud, MN</td>
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<tr>
<td>Sagen, Inc.</td>
<td>Project Manager</td>
<td>Grand Forks, ND</td>
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<tr>
<td>Sauer-Danfoss</td>
<td>Mechanical Design</td>
<td>Plymouth, MN</td>
</tr>
<tr>
<td>Sensormatic Electronics Corporation</td>
<td>Senior Model Maker</td>
<td>Boca Raton, FL</td>
</tr>
<tr>
<td>Shingobee Builders</td>
<td>Construction Project Manager</td>
<td>Loretto, MN</td>
</tr>
<tr>
<td>SK &amp; S Oil Field Services</td>
<td>Roustabout</td>
<td>Williston, ND</td>
</tr>
<tr>
<td>SME, Inc.</td>
<td>Engineering</td>
<td>Detroit Lakes, MN</td>
</tr>
</tbody>
</table>
A Partial List of Employers Who Have Hired BSU Technological Studies Graduates (Continued):

Srock Construction, Inc. Project Supervisor/Estimator Alexandria, MN
Stafford Builders Foreman Anoka, MN
State of Minnesota Complex Operations Support St Paul, MN
Stewart & Stevenson Operations Manager Houston, TX
Stock Building Supply Management Trainee Oak Grove, MN
Story Construction Co-Owner/Construction Worker Bemidji, MN
Swanson & Youngdale Estimator St. Louis Park, MN
TEAM Industries Machinist Bagley, MN
TEAM Industries Lean Coordinator Bagley, MN
TEAM-PRD Manufacturing Engineer Bagley, MN
Tennant Company Design Engineer Golden Valley, MN
Tescom Corporation Design Engineer Elk River, MN
The Glass Man Project Manager Cromwell, MN
Tri-Krete Ltd. Plant Manager Toronto
United Gear and Assembly Process Engineer Hudson, WI
United States Forest Services Helitack Durango, CO
US Postal Service Electronic Technician Bemidji, MN
VELUX Model Maker Greenwood, SC
Vision-EASE Lens Doc Control/Configuration Mgmt. Ramsey, MN
VQ OrthoCare Mechanical Engineer Tech Vista, CA
Wanzek Construction Project Engineer Fargo, ND
Wanzek Construction Field Engineer Fargo, MN
Weis Builders Assistant Superintendent Minneapolis, MN
Wells Technology Production Manager Bemidji, MN
Westgroup Computer Technical Support Rep Eagan, MN
Western Spring Manufacturing Maintenance Craftsperson Hugo, MN
Woodcraft Industries, Inc. Production Supervisor Foreston, MN
Yacama Products Model Maker Arcata, CA
Zetah Construction Project Engineer Bemidji, MN

Colleges and Universities Where BSU Industrial Technology Graduates Have Gone to Continue Their Education:

Bemidji State University, Bemidji, MN Metropolitan State University, St. Paul, MN

Note 1: Some of the above job/career titles require advanced degrees or specialized training.
Note 2: Degrees alone do not get students jobs. Internships, summer jobs, volunteer work, part-time jobs, work-study positions, and active participation in student organizations on campus are all ways to become more competitive in a tight job market.
Note 3: Personal Competencies: it is also recommended that individuals be competent in a variety of communication methods, and computer skills are a must.

Bibliography:
Bemidji State University Undergraduate Catalog 2006-2008. Bemidji State University, Bemidji, MN (2009)

For more information, please contact the Career Services Office in 102 Sanford Hall or call us at 218-755-2038 or toll free at 800-657-3726.