

15.0000 Engineering, General (2011)

Knowledge	Skills	Performance Element	
			Technical Standards - Michigan Customized List
I			Engineering Design
	C		Project Planning
		1	Identify project requirements & estimate resources
		2	Create an effective project plan
		a	Prioritize tasks
		b	Define milestones
		c	Use electronic tools such as Gantt chart, Microsoft Project software, etc.
		3	Anticipate project constraints and create alternative plans
		4	Evaluate and report on the results of the project
			Science, Technology, Engineering & Mathematics - Engineering and Technology Pathway
X			TECHNICAL SKILLS
	A		Apply concepts and processes for the application of technology to engineering.
		1	Use knowledge, techniques, skills, and modern tools necessary for engineering practice.
		2	Describe the elements of good engineering practice (e.g. understanding customer needs, planning requirements analysis, using appropriate engineering tools, prototyping, test, evaluation, and verification).
		3	Demonstrate the ability to characterize a plan and identify the necessary engineering tools that will produce a technical solution when given a problem statement.
		4	Effectively use project management techniques (e.g. working in teams, appropriate time management practices, effective organizational skills, conduct analysis of cost, resources, and production capacity, and quality practices with continuous improvement).
XI			DESIGN

Knowledge	Skills	Performance Element	15.0000 Engineering, General (2011)	
			Technical Standards - Michigan Customized List	
	A		Know the elements of the processes and concepts for understanding the design process.	
		3	Describe design constraints, criteria, and trade-offs in regard to variety of conditions (e.g. technology, cost, safety, society, the environment, time, human resources, manufacturability).	
	B		Develop processes and concepts to apply the design process.	
		1	Apply the design process, including understanding customer needs, interpreting and producing design constraints and criteria, planning and requirements analysis, brainstorming and idea generation, using appropriate modeling and prototyping, testing, verification, and implementation.	
			Science, Technology, Engineering and Mathematics Cluster Foundation Standards	
IV			INFORMATION TECHNOLOGY APPLICATIONS: <i>Use information technology tools specific to the career cluster to access, manage, integrate, and create information.</i>	
	A		Effectively use information technology to gather, store, and communicate data in appropriate formats.	
		1	Use IT in support of gathering, storage, and transfer of data or results in appropriate formats to support assigned projects.	
			a	Apply different techniques for gathering storing and transferring data.
		2	Select and use assorted forms of IT to meet the requirements of a plan, process, project, report, issue, or problem.	
			a	Write a report based on Internet research, using calculations, graphs, and/or spreadsheets.
			Create, organize, manage, and distribute information in electronic format.	

Knowledge	Skills	Performance Element	
15.0000 Engineering, General (2011)			
Technical Standards - Michigan Customized List			
	B		Evaluate and use skills relating to the differing technological tools used to manipulate, report, or operate with data acquisition.
		2	Use modeling, simulation, or visual reproduction to effectively analyze, create, and/or communicate to others regarding plans, projects, problems, issues or processes.
			a Apply techniques for modeling systems or problems.
			b Apply techniques for scientific visualization and animation of complex physical systems or problems.
			c Test different scenarios to multiple variables.
Science, Technology, Engineering and Mathematics Cluster Essential Standards			
	I		ACADEMIC FOUNDATIONS: <i>Achieve additional academic knowledge and skills required to pursue the full range of career and postsecondary education opportunities within a career cluster.</i>
	B		Demonstrate language arts knowledge and skills required to pursue the full range of post-secondary education and career opportunities.
		1	Model behaviors that demonstrate active listening.
		2	Adapt language for audience, purpose, situation. (i.e. diction/structure, style).
		3	Organize oral and written information.
		4	Compose focused copy for a variety of written documents such as agendas, audio-visu-als, bibliographies, drafts, forms/documents, notes, oral presentations, reports, and technical terminology.
		5	Edit copy to create focused written documents such as agendas, audio-visu-als, bibliographies, drafts, forms/documents, notes, oral presentations, reports, and technical terminology.

Knowledge	Skills	Performance Element	
<h1>15.0000 Engineering, General (2011)</h1>			
Technical Standards - Michigan Customized List			
		6	Comprehend key elements of oral and written information such as cause/effect, comparisons/contrasts, conclusions, context, purpose, charts/tables/graphs, evaluation/critiques, mood, persuasive text, sequence, summaries, and technical subject matter.
		7	Evaluate oral and written information for accuracy, adequacy/sufficiency, appropriateness, clarity, conclusions/solutions, fact/opinion, propaganda, relevancy, validity, and relationship of ideas.
		8	Identify assumptions, purpose, outcomes/solutions, and propaganda techniques.
		9	Predict potential outcomes and/or solutions based on oral and written information regarding trends.
		10	Present formal and informal speeches including discussion, information requests, interpretation, and persuasive arguments.
	D		Demonstrate science knowledge and skills required to pursue the full range of post-secondary and career education opportunities.
		2	Apply scientific methods in qualitative and quantitative analysis, data gathering, direct and indirect observation, predictions, and problem identification.
II			COMMUNICATIONS: Use oral and written communication skills in creating, expressing and interpreting information and ideas including technical terminology and information.
	A		Select and employ appropriate reading and communication strategies to learn and use technical concepts and vocabulary in practice.
		1	Determine the most appropriate reading strategy for identifying the overarching purpose of a text (i.e. skimming, reading for detail, reading for meaning or critical analysis).
		2	Demonstrate use of content, technical concepts and vocabulary when analyzing information and following directions.

Knowledge	Skills	Performance Element	15.0000 Engineering, General (2011)
			Technical Standards - Michigan Customized List
		3	Select the reading strategy or strategies needed to fully comprehend the content within a written document (i.e., skimming, reading for detail, reading for meaning or critical analysis).
		4	Interpret information, data, and observations to apply information learned from reading to actual practice.
		5	Transcribe information, data, and observations to apply information learned from reading to actual practice.
		6	Communicate information, data, and observations to apply information learned from reading to actual practice.
	B		Demonstrate use of the concepts, strategies, and systems for obtaining and conveying ideas and information to enhance communication in the workplace.
		1	Employ verbal skills when obtaining and conveying information.
		2	Record information needed to present a report on a given topic or problem.
		3	Write internal and external business correspondence that conveys and/or obtains information effectively.
		4	Communicate with other employees to clarify workplace objectives.
		5	Communicate effectively with customers and employees to foster positive relationships.
	C		Locate, organize and reference written information from various sources to communicate with co-workers and clients/participants.
		1	Locate written information used to communicate with co-workers and customers.
		2	Organize information to use in written and oral communications.
		3	Reference the sources of information.
	D		Evaluate and use information resources to accomplish specific occupational tasks.
		1	Use informational texts, Internet web sites, and/or technical materials to review and apply information sources for occupational tasks.

15.0000 Engineering, General (2011)

Knowledge	Skills	Performance Element	
			Technical Standards - Michigan Customized List
		2	Evaluate the reliability of information from informational texts, Internet Web sites, and/or technical materials and resources.
	E		Use correct grammar, punctuation and terminology to write and edit documents.
		1	Compose multi-paragraph documents clearly, succinctly, and accurately.
		2	Use descriptions of audience and purpose when preparing and editing written documents.
		3	Use correct grammar, spelling, punctuation, and capitalization when preparing written documents.
	F		Develop and deliver formal and informal presentations using appropriate media to engage and inform audiences.
		1	Prepare oral presentations to provide information for specific purposes and audiences.
		2	Identify support materials that will enhance an oral presentation.
		3	Prepare support materials that will enhance an oral presentation.
		4	Deliver an oral presentation that sustains listeners' attention and interest.
		5	Align presentation strategies to the intended audience.
		6	Implement multi-media strategies for presentations.
	G		Interpret verbal and nonverbal cues/behaviors to enhance communication with co-workers and clients/participants.
		1	Interpret verbal behaviors when communicating with clients and co-workers.
		2	Interpret nonverbal behaviors when communicating with clients and co-workers.
	H		Apply active listening skills to obtain and clarify information.
		1	Interpret a given verbal message/information.
		2	Respond with restatement and clarification techniques to clarify information.
	I		Develop and interpret tables, charts, and figures to support written and oral communications.
		1	Create tables, charts, and figures to support written and oral communications.

15.0000 Engineering, General (2011)

Knowledge	Skills	Performance Element	
			Technical Standards - Michigan Customized List
		2	Interpret tables, charts, and figures used to support written and oral communication.
	J		Listen to and speak with diverse individuals to enhance communication skills.
		1	Apply factors and strategies for communicating with a diverse workforce.
		2	Demonstrate ability to communicate and resolve conflicts within a diverse workforce.
	K		Exhibit public relations skills to increase internal and external customer/client satisfaction.
		1	Communicate effectively when developing positive customer/client relationships.
III			PROBLEM-SOLVING AND CRITICAL THINKING: <i>Solve problems using critical thinking skills (analyze, synthesize, and evaluate) independently and in teams. Solve problems using creativity and innovation.</i>
	B		Employ critical thinking and interpersonal skills to resolve conflicts with staff and/or customers.
		1	Analyze situations and behaviors that affect conflict management.
		2	Determine best options/outcomes for conflict resolution using critical thinking skills.
		3	Identify with others' feelings, needs, and concerns.
		4	Implement stress management techniques.
		5	Resolve conflicts with/for customers using conflict resolution skills.
		6	Implement conflict resolution skills to address staff issues/problems.
	C		Identify, write and monitor workplace performance goals to guide progress in assigned areas of responsibility and accountability.
		1	Write realistic performance goals, objectives and action plans.
		2	Monitor performance goals and adjust as necessary.
		3	Recognize goal achievement using appropriate rewards in the workplace.
		4	Communicate goal achievement with managers and co-workers.

15.0000 Engineering, General (2011)

Knowledge	Skills	Performance Element	
			Technical Standards - Michigan Customized List
IV			INFORMATION TECHNOLOGY APPLICATIONS: <i>Use information technology tools specific to the career cluster to access, manage, integrate, and create information.</i>
	A		Use Personal Information Management (PIM) applications to increase workplace efficiency.
		1	Manage personal schedules and contact information.
		2	Create memos and notes.
	B		Employ technological tools to expedite workflow.
		1	Use information technology tools to manage and perform work responsibilities.
	C		Operate electronic mail applications to communicate within a workplace.
		1	Use email to share files and documents.
		2	Identify the functions and purpose of email systems.
		3	Use email to communicate within and across organizations.
	D		Operate Internet applications to perform workplace tasks.
		1	Access and navigate Internet (e.g., use a web browser).
		2	Search for information and resources.
		3	Evaluate Internet resources for reliability and validity.
	E		Operate writing and publishing applications to prepare business communications.
		1	Prepare simple documents and other business communications.
		2	Prepare reports and other business communications by integrating graphics and other non-text elements.
		3	Prepare complex multi-media publications.
	F		Operate presentation applications to prepare presentations.
		1	Prepare presentations for training, sales and information sharing.
		2	Deliver presentations with supporting materials.

Knowledge	Skills	Performance Element	
<h1>15.0000 Engineering, General (2011)</h1>			
Technical Standards - Michigan Customized List			
	I		Employ collaborative/groupware applications to facilitate group work.
		1	Facilitate group work through management of shared schedule and contact information.
		2	Facilitate group work through management of shared files and online information.
		3	Facilitate group work through instant messaging or virtual meetings.
	J		Employ computer operations applications to manage work tasks.
		1	Manage computer operations.
		2	Manage file storage.
		3	Compress or alter files.
	K		Use computer-based equipment (containing embedded computers or processors) to control devices.
		1	Operate computer driven equipment and machines.
		2	Use installation and operation manuals.
		3	Troubleshoot computer driven equipment and machines.
		4	Access support as needed to maintain operation of computer driven equipment and machines.
VII			LEADERSHIP AND TEAMWORK: Use leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.
	A		Employ leadership skills to accomplish organizational goals and objectives.
		1	Analyze the various roles of leaders within organizations (e.g. contribute ideas; share in building an organization; act as role models to employees by adhering to company policies, procedures, and standards; promote the organization's vision; and mentor others).
		2	Exhibit traits such as empowerment, risk, communication, focusing on results, decision-making, problem solution, and investment in individuals when leading a group in solving a problem.

Knowledge	Skills	Performance Element	
<h1>15.0000 Engineering, General (2011)</h1>			
Technical Standards - Michigan Customized List			
		3	Exhibit traits such as compassion, service, listening, coaching, developing others, team development, and understanding and appreciating others when acting as a manager of others in the workplace.
		4	Exhibit traits such as enthusiasm, creativity, conviction, mission, courage, concept, focus, principle-centered living, and change when interacting with others in general.
		5	Consider issues related to self, team, community, diversity, environment, and global awareness when leading others.
		6	Exhibit traits such as innovation, intuition, adaptation, life-long learning and coachability to develop leadership potential over time.
		7	Analyze leadership in relation to trust, positive attitude, integrity, and willingness to accept key responsibilities in a work situation.
		8	Describe observations of outstanding leaders using effective management styles.
		9	Participate in civic and community leadership and teamwork opportunities to enhance skills.
	B		Employ organizational and staff development skills to foster positive working relationships and accomplish organizational goals.
		1	Implement organizational skills when facilitating others' work efforts.
		2	Explain how to manage a staff that satisfies work demands while adhering to budget constraints.
		3	Describe how staff growth and development to increase productivity and employee satisfaction.
		4	Organize team involvement within a group environment.
		5	Work with others to develop and gain commitment to team goals.
		6	Distribute responsibility and work load fairly.
		7	Model leadership and teamwork qualities to aid in employee morale.
		8	Identify best practices for successful team functioning.
		9	Explain best practices for successful team functioning.

15.0000 Engineering, General (2011)

Knowledge	Skills	Performance Element	
			Technical Standards - Michigan Customized List
	C		Employ teamwork skills to achieve collective goals and use team members' talents effectively.
		1	Work with others to achieve objectives in a timely manner.
		2	Promote the full involvement and use of team members' individual talents and skills.
		3	Employ conflict-management skills to facilitate solutions.
		4	Demonstrate teamwork skills through working cooperatively with co-workers, supervisory staff, and others, both in and out of the organization, to achieve particular tasks.
		5	Demonstrate teamwork processes that provide team building, consensus, continuous improvement, respect for the opinions of others, cooperation, adaptability, and conflict resolution.
		6	Develop plans to improve team performance.
		7	Demonstrate commitment to and a positive attitude toward team goals.
		8	Take responsibility for shared group and individual work tasks.
		9	Assist team members in completing their work.
		10	Adapt effectively to changes in projects and work activities.
		11	Negotiate effectively to arrive at decisions.
	D		Establish and maintain effective working relationships with all levels of personnel and other departments in order to accomplish objectives and tasks.
		1	Build effective working relationships using interpersonal skills.
		2	Use positive interpersonal skills to work cooperatively with co-workers representing different cultures, genders and backgrounds.
		3	Manage personal skills to accomplish assignments.
		4	Treat people with respect.
		5	Provide constructive praise and criticism.
		6	Demonstrate sensitivity to and value for diversity.

Knowledge	Skills	Performance Element	
15.0000 Engineering, General (2011)			
Technical Standards - Michigan Customized List			
		7	Manage stress and control emotions.
	E		Conduct and participate in meetings to accomplish work tasks.
		1	Develop meeting goals, objectives and agenda.
		2	Assign responsibilities for preparing materials and leading discussions.
		3	Prepare materials for leading discussion.
		4	Assemble and distribute meeting materials.
		5	Conduct meeting to achieve objectives within scheduled time.
		6	Demonstrate effective communication skills in meetings.
		7	Produce meeting minutes including decisions and next steps.
		8	Use parliamentary procedure, as needed, to conduct meetings.
	F		Employ mentoring skills to inspire and teach others.
		1	Use motivational techniques to enhance performance in others.
		2	Provide guidance to enhance performance in others.
VIII			ETHICS AND LEGAL RESPONSIBILITIES: <i>Know and understand the importance of professional ethics and legal responsibilities.</i>
	B		Interpret and explain written organizational policies and procedures to help employees perform their jobs according to employer rules and expectations.
		1	Locate information on organizational policies in handbooks and manuals.
		2	Discuss how specific organizational policies and procedures influence a specific work situation.
IX			EMPLOYABILITY AND CAREER DEVELOPMENT: <i>Know and understand the importance of employability skills. Explore, plan, and effectively manage careers. Know and understand the importance of entrepreneurship skills.</i>
	A		Identify and demonstrate positive work behaviors and personal qualities needed to be employable.

Knowledge	Skills	Performance Element	
<h1>15.0000 Engineering, General (2011)</h1>			
Technical Standards - Michigan Customized List			
		1	Demonstrate self-discipline, self-worth, positive attitude, and integrity in a work situation.
		2	Demonstrate flexibility and willingness to learn new knowledge and skills.
		3	Exhibit commitment to the organization.
		4	Identify how work varies with regard to site, from indoor confined spaces to outdoor areas, including aerial space and a variety of climatic and physical conditions.
		5	Apply communication strategies when adapting to a culturally diverse environment.
		6	Manage resources in relation to the position (i.e. budget, supplies, computer, etc).
		7	Identify positive work-qualities typically desired in each of the career cluster's pathways.
		8	Manage work roles and responsibilities to balance them with other life roles and responsibilities.
	F		Identify and exhibit traits for retaining employment to maintain employment once secured.
		1	Model behaviors that demonstrate reliability and dependability.
		2	Maintain appropriate dress and behavior for the job to contribute to a safe and effective workplace/jobsite.
		3	Complete required employment forms and documentation such as I-9 form, work visa, W-4 and licensures to meet employment requirements.
		4	Summarize key activities necessary to retain a job in the industry.
		5	Identify positive work behaviors and personal qualities necessary to retain employment.
	B		Employ planning and time management skills and tools to enhance results and complete work tasks.
		1	Develop goals and objectives.
		2	Prioritize tasks to be completed.
		3	Develop timelines using time management knowledge and skills.
		4	Use project-management skills to improve workflow and minimize costs.

Knowledge	Skills	Performance Element	
			15.0000 Engineering, General (2011)
			Technical Standards - Michigan Customized List
			MICHIGAN CAREER AND EMPLOYABILITY STANDARDS
I			APPLIED ACADEMIC SKILLS
	C		Listening & Presentation Skills
		1	Use correct grammar to communicate verbally.
		2	Listen to a presentation and record important information. Report back identifying central themes and use key points to explain how the message applies to a similar situation.
	D		Technology
		1	Apply technology to workplace or career situation. Include research and a written paper.
III			DEVELOPING AND PRESENTING INFORMATION
	A		Developing and Presenting information
		1	Gather, interpret, analyze, and refine data.
		2	Analyze and synthesize information and data from multiple sources.
		3	Plan and transform ideas and requirements into a concept, service, or product.
		4	Assess the quality of the concept, service, or product using a predetermined standard.
		5	Develop a plan to market a new product, service, or concept which includes identifying of customers, a graphic presentation, product requirements, and costs.
		6	Practice and demonstrate presentation skill using a variety of media and interpretive data.
V			PERSONAL MANAGEMENT
	B		Self-Management
		1	Monitor & evaluate accurately one's progress towards a goal or completion of a project.
		4	Prioritize and accomplish tasks independently.
		5	Use appropriate personal expression and relate to school and work settings.
	D		Respect for Self and Others

15.0000 Engineering, General (2011)

Knowledge	Skills	Performance Element	
			Technical Standards - Michigan Customized List
		1	View accomplishments or failures of self and others accurately and in a positive manner.
		2	Understand how to make improvements and ask for help from adults as needed.
		3	Offer encouragement and ideas to others as they work toward attaining their goals.
		4	Provide for customer needs and expectations in a helpful and courteous manner.
		5	Respect other points of view.
		6	Demonstrate customer service skills in an appropriate setting by listening, suggesting solutions, and communicating the issues at hand.
VI			ORGANIZING SKILLS
	A		Time
		1	Determine goals and develop an action plan to accomplish them within a given time frame.
		2	Read time charts and work schedules and perform tasks within time constraints of school or the workplace.
		3	Prioritize tasks and revise schedules as needed.
	B		Money
		1	Estimate costs and prepare a detailed budget for a school-based or work-based project.
		2	Report the costs of various components of a budget and adjust budget items as needed.
		3	Understand compensation practices and financial management and explain how financial resources can be used effectively and efficiently.
	C		Materials
		1	Utilize materials, tools, and processes to complete a task related to a career selection.
		2	Compile a list of materials and supplies needed in advance of an assignment.
		3	Acquire resources in a timely fashion and take responsibility for their care.
		4	Identify and prepare tools, equipment, space, and facilities appropriate for a task.
		5	Work within constraints of safety precautions and available resources.

Knowledge	Skills	Performance Element	
			15.0000 Engineering, General (2011)
			Technical Standards - Michigan Customized List
	D		Human Resources
		1	Learn cooperation and leadership in a team at school or in a workplace setting.
		2	Organize and communicate with members of a team using varied methods of communications.
		3	Recognize the individual roles of team members, delegate tasks, and give feedback on performance.
		4	Acknowledge and utilize the skills, abilities, and input of all member of a team.
VII			TEAMWORK
	A		Group Participation
		1	Exhibit teamwork skills including trust and loyalty to group, and demonstrate connectedness to group members, values, and culture.
		2	Take personal responsibility for influencing and accomplishing group goals.
		3	Demonstrate understanding of how effective teams operate within organization and diverse settings.
		4	Solve a career/work-related problem as a member of a team.
	B		Conflict Resolution
		1	Demonstrate leadership by listening to others and asking appropriate questions to clarify a problem or issue.
		2	Summarize a problem clearly and in appropriate detail.
		3	Suggest constructive alternatives with confidence that will help resolve a conflict.
		4	Compromise and/or build consensus within a group and summarize the decision of the group while maintaining respect for minority viewpoints.
		5	Participate in the implementation of a group's decision and evaluate the results.
		6	Show sensitivity to others' thoughts and opinions and relate them to the resolution process.

Knowledge	Skills	Performance Element	
			15.0000 Engineering, General (2011)
			Technical Standards - Michigan Customized List
	C		Diversity
		1	Understand and respect the concerns of members of cultural, gender, age, and ability groups.
		2	Be respectful of a variety of differences of people in a work/school setting.
		3	Demonstrate ability to work with others with different backgrounds, cultures, and abilities.
	D		Leadership
		1	Demonstrate leadership ability in a work or school setting.
		2	Recognize and take advantage of leadership opportunities that give direction to other team members, or that encourage other members to complete tasks.
VIII			NEGOTIATION SKILLS
	A		Negotiation Skills
		1	Using correct terminology, clarify the problem or issue to be negotiated.
		2	Identify, organize, and define ideas from various sources to logically support a position and use these ideas in debate.
		3	Demonstrate objectivity in assessing other viewpoints by considering all sides of an issue, using past experience, data and logical analysis, and showing respectful behavior towards others.
		4	Responsibly challenge existing policies and procedures and identify new solutions or policy changes.
IX			UNDERSTANDING SYSTEMS AND USING TECHNOLOGY
	A		Understanding Systems and Using Technology
		1	Identify trends and how they affect changes within a system.
		2	Demonstrate an understanding of business systems.
		10	Use technologies as tools for communication of technical or work-related information.
		11	Use technology effectively in solving problems in an area of career interest.

Knowledge	Skills	Performance Element	15.0000 Engineering, General (2011)
			Technical Standards - Michigan Customized List
		12	Understand and demonstrate basic computer hardware and software installation and maintaining efficient machines.
		13	Demonstrate ability to adapt to different software applications, comparing and contrasting specific functions and applying them to different projects.
X			EMPLOYABILITY SKILLS
	A		Employability Skills
		1	Continue the EDP process which includes an annual review with student and counselor and notification of parents.
XI			MICHIGAN TECHNOLOGY STANDARDS
			Michigan Educational Technology Standards for Students (METS-S) 2009
	A		Creativity and Innovation – By the end of Grade 12 each student will:
		1	Apply advanced software features (e.g. built-in thesaurus, templates, styles) to redesign the appearance of word processing documents, spreadsheets, and presentations
		2	Create a web page (e.g., Dreamweaver, iGoogle, Kompozer)
		3	Use a variety of media and formats to design, develop, publish, and present projects (e.g., newsletters, web sites, presentations, photo galleries)
	B		Communication and Collaboration - By the end of Grade 12 each student will:
		1	Identify various collaboration technologies and describe their use (e.g., desktop conferencing, listserv, blog, wiki)
		2	Use available technologies (e.g., desktop conferencing, e-mail, videoconferencing, instant messaging) to communicate with others on a class assignment or project
		3	Collaborate in content-related projects that integrate a variety of media (e.g., print, audio, video, graphic, simulations, and models)
		4	Plan and implement a collaborative project using telecommunications tools (e.g., ePals, discussion boards, online groups, interactive web sites, videoconferencing)

Knowledge	Skills	Performance Element	
<h1>15.0000 Engineering, General (2011)</h1>			
Technical Standards - Michigan Customized List			
		5	Describe the potential risks and dangers associated with online communications
		6	Use technology tools for managing and communicating personal information (e.g., finances, contact information, schedules, purchases, correspondence)
	C		Research and Information Fluency – By the end of Grade 12 each student will:
		1	Develop a plan to gather information using various research strategies (e.g., interviews, questionnaires, experiments, online surveys)
		2	Identify, evaluate, and select appropriate online sources to answer content related questions
		3	Demonstrate the ability to use library and online databases for accessing information (e.g., MEL, Proquest, Infosource, United Streaming)
		4	Distinguish between fact, opinion, point of view, and inference
		5	Evaluate information found in selected online sources on the basis of accuracy and validity
		6	Evaluate resources for stereotyping, prejudice, and misrepresentation
		7	Understand that using information from a single internet source might result in the reporting of erroneous facts and that multiple sources must always be researched
		8	Research examples of inappropriate use of technologies and participate in related classroom activities (e.g., debates, reports, mock trials, presentations)
	F		Technology Operations and Concepts - By the end of Grade 12 each student will:
		12	Demonstrate how to import/export text, graphics, or audio files
		13	Proofread and edit a document using an application's spelling and grammar checking functions