

Cumberlands Chapter

KY FAME

Advanced Manufacturing Technician

ORIENTATION

July 11, 2017



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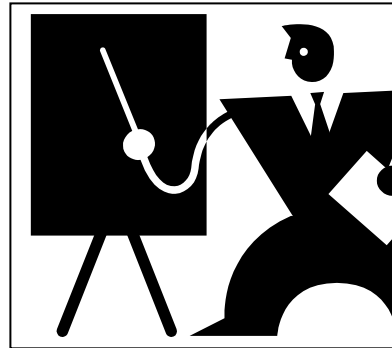
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Introduction

Congratulations and welcome to the Advanced Manufacturing Technician (AMT) Program.

This work and learn program is a partnership between local participating manufacturers organized as Kentucky Federation for Advanced Manufacturing Education (KY FAME) and Somerset Community College (SCC). The purpose of this partnership is to create a stronger workforce that meets today's challenge of global competitiveness. For that reason, the program is industry led. It combines the knowledge and skills learned in the Industrial Maintenance Technology curriculum at SCC with the manufacturing culture.

The AMT Program is not your typical college work/study or co-op program. It is a professional program designed for students to acquire the best technical education and work experience possible in five semesters. Expectations of you as an AMT student for attending class and workshops, completing class work, dressing appropriately, behaving responsibly, following safety standards, etc. are equivalent to working in a professional environment and will be considered in all of your evaluations. In addition to classes and work, you will attend additional workshops and seminars outside of class that will prepare you to be a top professional technician. As an AMT student you have the opportunity to participate in team activities and presentations with manufacturing maintenance managers and other professional leaders that will help you increase your experience and knowledge about manufacturing. There are also opportunities to participate in local, regional, state, and national activities that will broaden your educational and professional experience. This knowledge and experience gives you a great foundation on which to build your career as well as your competitive edge.



Your success depends on how much you are willing to invest in your program and your future. You will have support through the entire process but the final choice of how successful you are is up to you!

This handbook is your guide for the next five semesters. Therefore, refer to it often to remind yourself of your goal.

Rewards of the Program

- **Degree** - You obtain an AAS (Associates of Applied Science) degree in IMT (Industrial Maintenance Technology) with an AMT (Advanced Manufacturing Technician) Certificate. Your degree along with the added disciplines of the program will place you at a higher level than typical certification degree programs.
- **Multi-skilled** – You have a greater breadth of multifunctional capability increasing your employability in the future.
- **Manufacturing culture environment** – You learn in a manufacturing environment and are provided five manufacturing core exercises in: safety culture, workplace organization 5S, lean workplace principles, problem solving, and total productive maintenance. These are disciplines that are not generally included in other college programs but are needed in the manufacturing environment.
- **Work experience** – You have two years of real work experience in your field of study to add to your résumé.
- **Communication skills** – You learn to communicate one-on-one, present to small groups and large groups enabling you to effectively communicate in both verbal and written forms. You will graduate with significantly more communication experience than graduates from traditional technical programs.
- **Continued career path** – You have opportunities to continue your education. While not guaranteed a position at the end of your program, manufacturers participating in the program often offer the opportunity to continue your education and employment.

FAME

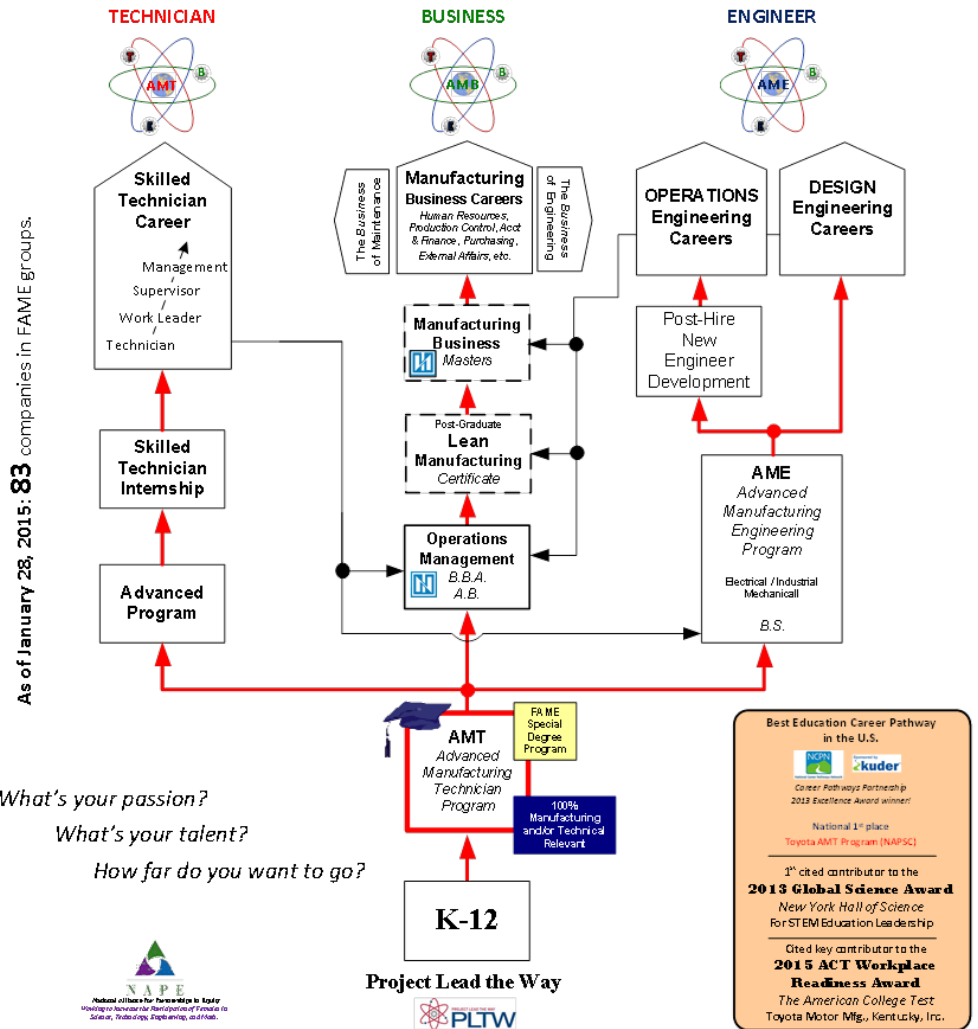
Advanced Manufacturing Career Pathways

Employers discovering their workforce of tomorrow – today.

Students launching into their careers today – with no school debt!

FAME is the employers collaborative that supports each local AMT Program at a college partner. Local employers form a FAME group. A local college will then implement the AMT Program, and the employers will sponsor students who will attend school 2 days per week, and work at the sponsoring employer 3 days per week.

DISCLAIMER: "FAME," "AMT" and the "Advanced Manufacturing Career Pathways" are employer programs and not college or school programs. As partners with these programs many educational institutions may adopt the names and terms of the employer programs and activities to align with their own program. The use of similar terms in this document as another is not to be necessarily considered use in the same way that colleges and schools would use them.



What's your passion?
 What's your talent?
 How far do you want to go?

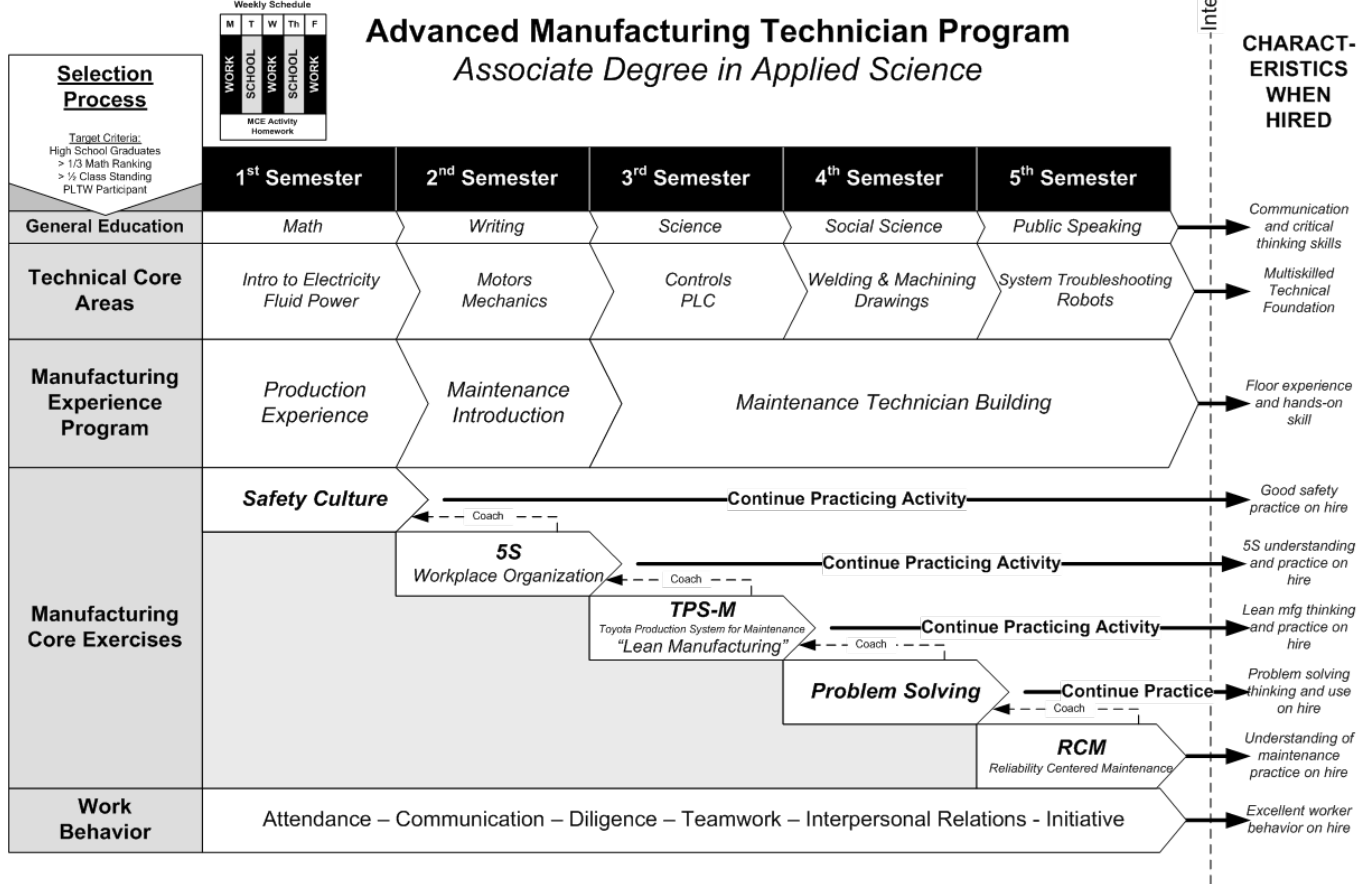


AMT Curriculum

Fall – 1st Semester		
Course	Description	Credits
IMT 110	Industrial Maintenance Electrical Principals	3
IMT 111	Industrial Maintenance Electrical Principals Lab	2
FXP 100	Fluid Power	3
FXP 101	Fluid Power Lab	2
MAT 116	Technical Math	3
HIS 109	History	3
IET 1301	Safety	1
Spring – 2nd Semester		
EET 270	Electrical Motor Controls 1	2
EET 271	Electrical Motor Controls Lab I	2
EET 272	Electrical Motor Controls II	3
EET 273	Electrical Motor Controls Lab II	2
ENG 101	Writing 1	3
CAD 103		3
IET 1302	5S	1
Summer – 3rd Semester		
IMT 150	Maintaining Industrial Equipment I	2
IMT 151	Maintaining Industrial Equipment Lab	2
EET 276	Programmable Logic Controllers	2
EET 277	Programmable Logic Controllers	2
IET 1303	Total Production System Maintenance	1
Fall – 4th Semester		
IMT 100	Welding for Maintenance	3
IMT 101	Welding for Maintenance Lab	2
CMM 110	Fundamentals of Machine Tools A	3
IET 1304	Problem Solving	1
SOC 101	Introduction to Sociology	3
COM 281		3
Spring – 5th Semester		
IMT 198	Practicum Troubleshooting	2
IMT 200	Industrial Robotics/Robotics Maintenance	4
IMT 289	IMT Capstone	1
PHY 171A	Applied Physics: Mechanics	4
IET 1305	Maintenance Reliability	1

NEXT GENERATION Technical Degree

Advanced Manufacturing Technician Program Associate Degree in Applied Science



Unique Features of the Program

Each of the industry partners in the Cumberland chapter of FAME select the students they will sponsor to participate in the program.

- The globally competent technician knows that learning is a life-long process; therefore, the entire week is used for learning. Students attend school at least two full days (8+ contact hours per day). Three days of the week are spent working at the student's sponsoring manufacturer. This maximizes the students' learning experience before transitioning to a full-time work situation.
- Weekly schedule consists of 5 days of activity:
 - ❖ 2 days of classroom instruction and development
 - ❖ 3 days of work experience
- Daily schedule requires 8+ hours per day:
 - ❖ Work day on the floor \geq 8 hours plus lunch as determined by the employer
 - ❖ Class days \geq 8 hours per day of instruction and development activities
 - ❖ There will be additional work and classes assigned which require time beyond 8 hours a day during the week.
- The program is five straight semesters in length, including summer, as it is in the real working world. All courses in the program, technical, general education, and otherwise are established by educators and industry leaders; there are no electives.
- The program is multidisciplinary. The AMT program provides introduction, basic fundamental skills, and experience in the areas of electricity, fluid power, mechanics and fabrication.
- Multifunctional competencies such as developing a reliable attendance culture, getting along well with others, teamwork, initiative, and conflict resolution are developed in this program.
- You are paid for your work by your employer. Your pay assists you to:
 - ❖ Pay your tuition and fees
 - ❖ Pay for your books and other necessary classroom materials
 - ❖ Supplement your living expenses

But remember, the primary purpose of this program is completing the educational component.

What Companies (Your Sponsors) Desire

Being successful in your career is more than just doing work. Companies are looking for employees that have the following personal and social attributes.

- Positive Attitude
- Proficiency in Field of Study
- Communication Skills (oral & written)
- Interpersonal Skills
- Confidence
- Critical Thinking and Problem Solving Skills
- Flexibility
- Dependability
- Self-motivation
- Leadership
- Teamwork

Expectations of Students in the AMT Program

Since the AMT Program is designed to satisfy the workforce industry needs and wants, expectations of you as a student in the program are higher than students in most traditional programs. You will learn how to meet those expectations through coaching by faculty, staff, and mentors. This is another learning activity that will give you the competitive edge.

You will be expected to demonstrate total professional behavior at all times at both school and work by practicing the following:

- Be respectful- act and speak in a way that brings respect to those around you
 - ❖ Show respect for the school – instructor, staff, and classmates and the sponsoring company- supervisor, and fellow employees.
- Be on time to work and to class --- every day, every time!
 - ❖ School attendance, including tardiness, will be treated just like work attendance and will follow your sponsor’s attendance policies. You will be removed from your sponsorship due to poor attendance at school or at work. If the instructor has to ask you to leave class because of disruptive behavior, sleeping in class, using your phone for personal use such as texting, etc., it will be reported as an absence.
 - ❖ Professional appearance. Come to school and to work every day clean, neatly groomed, with neatly worn clothes, including work clothes.
- Fully complete all elements of the program (school degree, manufacturing exercises, seminars, any company specific requirements, etc.).

- Maintain a minimum grade of “C” in each class.
- Maintain a minimum grade of “satisfactory” on each work evaluation.
- You may not withdraw from a class. There is no room in the schedule to fit in a makeup class. **Ask for help early!**
- Practice SAFETY in all of your activities, both school activities and work activities. (See section regarding safety on following pages.).
- Constructively and productively get along with people in all work and school related environments. You must resolve interpersonal conflicts productively.
- Continuously display the characteristics of initiative and diligence at school and work. Fully participate in all ad hoc activities, with sufficient notice, through your educational program.
- No cheating will be allowed. Dishonesty will not be tolerated and will result in immediate removal from the program.
- Remain 100% drug/substance/alcohol free at all times. Any violation will result in immediate removal from the program.
- Keep job and school separate from social and personal life.
 - ❖ Don’t take up your co-workers, classmates, instructors, or boss’s time with discussions of your personal life at work or in class.
- Always be tactful and courteous.
- Adapt and obey all internal policies of the AMT program, at school and at work.
- Don’t be afraid to ask questions.
- Learn to cope with realities of the working world.
 - ❖ Not everything is going to go your way.
- Learn to build on what you know.
- Be able to take suggestions and criticism from people.
 - ❖ Establish good work habits: Keep records of assignments given.
 - ❖ Pay special attention to detail.
 - ❖ A job well done is evidence of your ability and readiness for more complex tasks.
- Be professional in all communications and circumstances.
- Work hard and persevere throughout the program.
- Be loyal to your sponsoring company.

What NOT TO DO!

- DO NOT: Make personal phone calls while at work or in class. No cell phone usage during class – no texting, browsing, etc. The only exceptions are: your instructor permits you to use it for class or you have a possible emergency. If you have to take a call because of emergency, excuse yourself and leave class. Let your instructor know it is an emergency. **Emergencies are rare.**

- DO NOT: Lay your head down on the desk or on your arms whether in class or at work. If you are tired, stand up and move around if possible.
- DO NOT: Give the hint of being dishonest – it could ruin your whole career!

Safety in the Workplace and in Class

Regardless of what is done or how well it is done, or how successful, in the end it doesn't mean anything if everyone doesn't go home without injury every single day. Therefore, **safety is the number one priority** in both class and work. We focus on it with activities, practice, and helping students develop an “eye for safety”. In fact, the very first workshop is Safety Culture.

Safety Requirements

Because safety is the **number one priority**, we have developed rules for your safety. It is required that you observe them at all times. They may be easy to follow but not always convenient; therefore, it may take extensive diligence on your part to follow them.

Additional safety rules for the lab and the training equipment will be given to you when classes begins.

Your company sponsor will also give you an orientation on safety at the beginning and throughout your employment.

The following are safety precautions that must be observed at all times.

1. Report any unsafe conditions, equipment or materials to your instructor. If your concern is not addressed in a timely manner, notify the director of AMT program of your concern. Always: **STOP, CALL & WAIT!**
2. **Immediately notify the instructor of any injury...**no matter how small.
3. Do not operate any equipment unless you have been trained and authorized.
4. Remove rings and watches when troubleshooting “live” control circuits. Follow the proper lockout and tag out procedures.
5. Safety shoes are required in welding and machine tool labs.
6. Safety glasses are required when operating maintenance training equipment and in designated lab areas.
7. Always move cautiously and stay focused when working around electrical or mechanical equipment; **Think before acting.**
8. Make sure you are not grounded when adjusting equipment or making measurements.
9. Some measurements may require the use of isolation devices to protect equipment. Make sure you understand the correct use of these devices before turning power on.
10. Do not work on “live” electrical circuits. Training equipment should be turned off and unplugged when installing devices or wiring control circuits.
11. Ask for all MSDS's concerning any substance used in the program.

12. **Absolutely NO horseplay, practical jokes, or rough-housing in classroom and lab areas.**
13. Keep floors, aisles, and work areas clean and free of hazards.
14. Clean up any spills immediately.
15. Leave areas straight and clean. Put away all equipment and tools at the end of the day.
16. **STOP, LOOK & POINT at all while in the lab and at your employer!**

Your safety is of utmost importance. An accident report must be completed for any accident or near miss. In addition to completing an accident report, instructors and students will spend time reflecting on the situation. They will review the situation, determine why it occurred, and develop and implement any countermeasure(s) to prevent the same situation.

Additional documentation concerning safety rules and procedures will be given to you at different times in the program. You will be instructed in the rules and procedures and will be required to sign-off on the documents.

Safety Culture

One of the key elements of the AMT Program is that in addition to ensuring a set of safe work practices, we develop a *Culture of Safety*. A *Culture of Safety* means that you have individually developed a mind-set which seeks and places safety as the number one priority. It means that you actively think about safety, that you follow established safety rules and regulations, that you consciously regard the safety of others, and that you continually strive to improve safety.

Safety Commitment

You are required to adopt a personal “safety commitment”. These are individualized commitments to safety. They are verbalized each time before you speak to a group, in both formal and informal settings. The very first safety assignment for you as part of your Safety Culture training is to develop and adopt your own safety commitment. You will use this frequently throughout the AMT Program. Your safety commitment may be changed periodically.

Campus Safety

SCC cares about the safety and security of students, faculty, staff and visitors. SCC works to create a safe and comfortable learning environment.

- For life threatening emergencies call 911.
- For non-emergencies on the SCC Campus call 606-679-8501.
- For campus emergencies or safety issues contact campus security:
 - SCC Campus: Kenneth Estep 606-451-6938

General Safety Tips:

- Always remove valuables from sight and lock your vehicle.
- At night, try to park your car close to lights and activity.

- Report theft, damages, or suspicious activity to Campus Safety or the campus administration.
- Walk with a friend to and from classes.

Emergency procedures are in place for evacuation of the building and for sheltering and may be found at the exits of all rooms. Your instructor will go over emergency procedures with you at the beginning of each semester.

Dress Code

A dress code is recommended for two reasons:

Safety is the Number One Reason. The training areas require appropriate clothing for safety. If it is determined that the clothing or any other items worn by the student creates a safety hazard, a verbal warning will be given and the student will be expected to correct the behavior. A student will not be permitted to enter the area without the proper attire or equipment which will affect the student's ability to complete class work.

Professional Appearance. You represent the AMT program and your manufacturing sponsor. The SCC classroom is an extension of your workplace and you are to come to class dressed professionally. Developing the habit of appropriate dress prepares you for your future career.

Appropriate Attire

Casual slacks, jeans (exceptions for special class requirements)
 Short sleeve cotton shirt
 Safety shoes in welding and machine tool areas
 Safety glasses when in all labs

Inappropriate Attire

Sweat pants, exercises pants, shorts
 Tank tops
 See-thru clothing
 Shirts with inappropriate logos, letters, or designs
 Flip Flops
 Sun glasses with or without side-shields
 Dresses

Students that come to class dressed inappropriately will not be permitted to attend class. This will incur an absence which will be reported to your sponsor.

Classroom Procedures

The instructor will review the course syllabus, course objectives, grading policy, safety policy, and any other pertinent information. **READ THE SYLLABUS FOR EACH COURSE.** Information for the course, test dates, assignments, due dates, etc. are listed in the syllabus. Not reading the syllabus can cause you to miss assignment due dates, etc. which can affect your grade.

During the Semester

Class attendance and participation are a requirement of the AMT Program. Class attendance requirements follow your sponsor's attendance policies. Class absents and tardiness are reported to your sponsor routinely. As stated before, it will be reported as an absence if your instructor asks you to leave class for any reason such as disruptive behavior, cell phone use without permission, sleeping in class, etc. If for some reason you cannot attend class, you are to contact your instructor(s) or the main office at 606-679-8501 or by email to one of the contacts at the end of this handbook. If you cannot contact someone before the beginning of the class you will miss, then contact your instructor as soon as you can to schedule any make-up work.

AMT students may be required to attend workshops and seminars, such as Safety Culture, Work Place Organization, Lean Manufacturing, Maintenance Reliability, Problem Solving, etc., throughout their participation in the program. These events are purposed to broaden the students' knowledge and help them be more successful.

For students taking online classes for the general education courses, participating in any online class discussions and communication with your instructor are critical to you learning and understanding the expectations of the course. On-line classes are convenient for students but it will take self-motivation and reliance to stay on schedule to complete classes. Therefore, be aware of this as you progress through any online class.

Classrooms will be kept cleaned and orderly. Your instructor will advise you of the proper method to 5S the area. 5S is part of the Lean Culture you will be learning and practicing throughout the program. Before you leave your class, you are responsible to return the classroom to standard. Food and beverages in the classroom area are not permitted. Food and beverages are also not allowed in the equipment areas or at computer stations. All AMT students are expected to return the classroom and labs to standard before leaving class.

Daily

Clean all tables

Put away equipment and tools and slide chairs back under the tables

Each week

Clean all tables and horizontal surfaces

Thoroughly sweep the floors

Be sure all tools and equipment are properly stored
Clean all white boards

Recycling

Recycling containers are located in the break area. Any discards you have should be disposed of in the appropriate labeled container.

Tobacco Free Policy at SCC

The use of any tobacco products on all campus grounds is prohibited in any facility or on the grounds of Somerset Community College. While tobacco free, e-cigarettes are included in the ban.

The policy applies to every person who visits SCC campus, including guests, faculty, staff, volunteers, students, and service representatives.

What is considered a tobacco product and therefore prohibited by this policy? Tobacco products include, but are not limited to, cigarettes (traditional and e-cigarettes), chewing tobacco, pipes, cigars, and snuff.

Inclement weather policy

Somerset Community College seldom closes because of snow or other inclement weather. However, the college does occasionally use a delayed opening. When the college announces a delayed schedule, students, faculty and staff are given a time to report to the college.

For example: Somerset Community College will open today at 10 a.m.

- Simply report to the class or workstation where you ordinarily would be at 10 a.m. for that day and follow a regular class or work schedule for the rest of the day.
- It could be that your class has only minutes to meet.
- You should report to that class anyway.

Note: Closing and delayed schedules can vary by campus.

- The college makes closing and delayed decisions based on road and campus conditions, as well as classes, clinical and other campus schedules.
- It *is not* based on the decisions of other colleges or the decisions of local school systems.
- Decisions to close or delay are made as early in the morning as possible, based on current weather conditions.
- *Please use your own judgment as to whether you should travel during inclement weather.*

The most accurate closing and delay information is available from the following sources:

- SCC Website: <http://www.somerset.kctcs.edu/>
- Your KCTCS e-mail account
- The colleges main phone line: 502-213-5333
- Your cell phone (text message).
- Sign up for [SNAP alerts](#) (weather and emergency information).
- SCC's Facebook Page

News media are given the information, but some stations cannot report details, such as the time of day classes will begin. If you hear about a delayed schedule, it is best to double check one of the college's official sources.

NOTE: In the event the college is closed, students should always contact their sponsor (employer) for instructions.

Code of Student Conduct

The colleges of KCTCS are more than just educational institutions -- they are vibrant and diverse communities. Therefore, KCTCS strives to maintain an atmosphere of academic freedom and personal respect that creates an environment in which all can be successful.

As part of this commitment, KCTCS has developed a Code of Student Conduct that serves as a guide for the student's responsibilities and rights within our academic community. Please refer to the following website for the Code of Student Conduct.

http://www.kctcs.edu/en/Students/Admissions/Academic_Policies/Code_of_Student_Conduct.aspx

Email and PeopleSoft Account

Every student is required to set up an email account and should have received your username with your acceptance letter. PeopleSoft is the student record database for the college. Setting up the email account with your user name and password also gives you access to your student record. It is very **IMPORTANT** that you do so as all correspondence regarding registration deadlines, announcements, financial aid information, billing, etc. will be through your email. You must have an email account set up in order to access your records or receive information regarding the above. Instructions can be found at the following web site. http://www.somerset.kctcs.edu/Current_Students

Also be sure and sign up for SNAP alerts which include announcements about emergency campus closings at <http://kctcs.edu/snap>

Class Registration

Registration for classes will be done in accordance with the Academic Calendar which can be found on line at http://www.somerset.kctcs.edu/Academics/Academic_Calendar.aspx or posted on SCC bulletin boards or information monitors. During registration, you will meet with the program director/coordinator for advising. Generally, the program director/coordinator will see that you are enrolled in your classes at the appropriate time.

Additional Notes/Information

Overall Program Theme: What's important is not who is here at the beginning, but who is here at the end.

We strive to continually improve the program. As a student, you bring a unique perspective of the program and your input is valued. However, your main focus must be to meet the expectations of the program.

Holiday's or Other Periods the College may be Closed

If the college is closed for holidays or class is not in session for other periods, all students are to communicate with their employer concerning their individual work schedules.

Please visit the SCC website for additional information you may need while attending SCC. The website address is: <http://www.somerset.kctcs.edu/>.

Most information, guidelines and forms regarding Somerset Community College can be found on line at the website: <http://www.somerset.kctcs.edu/>. Information and links regarding student services, financial aid, tutoring, etc. are located at: http://www.somerset.kctcs.edu/Current_Students

Contacts

Faculty and staff members are here to assist you while you are attending classes at SCC. If you have any questions or need information, please contact one of us.

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