



## Technology Solutions

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## Technology Solutions Syllabus

### Strand Description

This course is designed for students who have an interest in the Information Technology field. This course will allow students an opportunity to discover and explore a variety of career options in the technology space. Students will have the opportunity to learn from professionals about computer networking, CIS and software development, website and app creation, and more. This course is student inquiry based. It is a hands on, project based exploratory opportunity for students. Students should be prepared to work with professionals on real-world company based projects.

### Strand Objectives

- Deepen knowledge of technology and how it presents itself in many of our day to day tasks through hands-on experiences and/or by experiencing application of knowledge with industry professionals
- Enhance, apply, and communicate knowledge and skills while developing working relationships and connections with your instructor, mentors, and peers
- Assisting students in selecting an appropriate post-secondary path to achieve their goals
- Career exploration of the vast opportunities in the Technology Solutions industry
- Build industry specific professional skills

### Class Schedule

- AM Session: 7:30 am - 10:00 am
- PM Session: 11:30 pm - 2:00 pm

### Dual Credit (Optional)

Students may elect to take up to three different college credit courses through Northwest Missouri State for a reduced rate. More information will be given out if you elect to take these for dual credit.

- Profession Based Essentials (1 credit hour),
- Profession-Based Work Experience (1-3 credit hours)
- Foundations of Computing (3 credits).

## Course Overview

This technology foundations course will provide students the opportunity to develop professional and technical skills through project-based learning. Students will discover technology by working collaboratively with and on a business project that encompasses many areas of technology, discovering in the process how each technical component contributes to the cohesive whole. The overarching goal of the project is to solve a business problem and/or improve the quality of people's lives. Projects throughout the course study may encompass networking, hardware and software, software application integration, website design, database development, and software application development. Students will have mentors available who work as technology professionals in the chosen area of expertise. Students will communicate with their mentor on a regular bases via BaseCamp or in person. Mentors will provide guidance in project work and answer technical questions, help with career exploration and industry trends. Additionally, students will have the opportunity to learn from guest speakers from many technology areas and make site visits to local businesses showcasing technology.

*Second semester Southland CAPS students will have the opportunity to apply and be selected for an internship. Southland CAPS internships are not guaranteed, therefore a student must be selected by the respective business partner. Internships are earned, not guaranteed.*

## Course Outline

A portion of the course will be comprised of students working on a semester project with a collaborative group to design and create a "working system" that incorporates many of the topics listed in the "Course Topics" below. Other projects assigned may consist of Personal Passion or Community Outreach to diversify student skills and provide broad exposure to multiple areas in the technology field.

The learning space for this course will be twofold. Most of our time will be spent at the Technology Solutions CAPS location on second floor, Room A&B at Raytown Schools Education and Conference Center (RSECC), 10750 E 350 HWY Raytown, MO 64138. Occasionally, students may be required to go to the Herndon Career Center--CAPS classroom located in the C Building at 11501 E State Route 350, Raytown, MO 64138. The RSECC site will include student assigned laptops and tablets, applicable software, and other technology as needed. Some project work may take place in the business partner locations.

In preparation for, and in conjunction with the project work, students will explore the "technology experience". Our daily lives are filled with these experiences. Students will explore ways to solve a business problem, or enhance the lives of others, by creating a useful technology experience from start to finish, or even providing content knowledge skills to peers.

## Strand Topics

- I. Professionalism
  - A. Elevator pitch
  - B. Email address and LinkedIn accounts
  - C. Handshake
  - D. Resume and application letters
  - E. Interview skills and the thank you
  - F. Time management
  - G. Social media etiquette
- II. Learning and Innovation Skills
  - A. Critical thinking and problem solving
  - B. Creativity and innovation

- C. Excellent oral and written communication skills
- D. Effective collaboration skills
- III. Life and Career Skills
  - A. Flexibility and adaptability
  - B. Initiative and self-direction
  - C. Social and cross-cultural skills
  - D. Productivity and accountability
  - E. Leadership and responsibility
- IV. Software Application development (learning targets will vary by student based on prerequisite skills/knowledge)
  - A. Analysis and design
  - B. Programming
  - C. Aspects
  - D. Simulations
- V. Web design; business focus ( learning targets will vary by student based on prerequisite skills/knowledge)
  - A. Content Management Solutions (CMS) Implementation and Design
    - 1. HTML and CSS
    - 2. Browser scripting
    - 3. Server scripting
    - 4. Multimedia
- VI. Network and infrastructure (learning targets will vary by student based on prerequisite skills/knowledge)
  - A. Implementation/Design
  - B. Network/Cyber Security
  - C. ITIL /Asset Management / Change management overview
  - D. IP Convergence effects
- VII. Data Mining – Information Science
  - A. Database
  - B. Big Data introduction
- VIII. Operating system fundamentals
- IX. Hardware fundamentals (PC's, Servers, & Mobile devices)
- X. Management information systems
- XI. Emerging trends in the “Technology Experience”; what does the future hold?
- XII. Information, Media and Communication Literacy Skills

### Teaching Philosophy/Methods

The teaching philosophy and methods in the Southland CAPS Technology Solutions Strand are distinctly different from what you have experienced in school up to this point. The instructional model is based in part on the Constructivist Learning Theory which states ***understanding and knowledge come through experiencing things***. This means that only a small portion of the class will be comprised of teacher lecture and written assessments. Instead, ***you, the student***, will be the “constructor” of your own learning, and these are the ways you will learn. You will learn the real life skill of thinking and applying the real life intonation of “***if it is to be, it is up to me***”. (Keep in mind while reading this list that these are the ways REAL technology professionals learn for their job every day):

- **Reading** from resource books, the World Wide Web, materials from business partners and/or your mentor(s), textbooks, online tutorials, and any other source you can find (including other students).
- **Aggregating your reading and research** into your online portfolio.
- **Discussions** with your peers, mentors, business partners where you will bring the knowledge you have gained to the table so that you may contribute professionally to the discussion. Weekly (or as needed) communication with your mentor(s).

- **Come prepared to class** with all reading and assignments complete so that you can realize the maximum benefit from your time at Southland CAPS. It is imperative, just like in the business world, that you do not waste the time of other students, mentors, business partners and instructors.
- **Asking questions CONSTANTLY.**
  - **Of yourself.** True professionals are constantly asking questions, not necessarily to others, but to themselves, in their own minds. Become very comfortable with asking yourself a question, then using your own resources to find the answer over and over again. Become comfortable with the thought that you may be wrong and open to fact that others may be right.
  - **Of others.** Take advantage of your mentor(s), guest speakers, and all CAPS/Herndon instructors. We all welcome your intellectual curiosity and encourage it!
- **Engaging in meaningful, “real world” project work.** You will work on a project for a business on a project team with other Southland CAPS peers. Your team will develop and follow a project plan that will include frequent milestones; checks and reviews with business partner, your mentor(s) and Southland CAPS instructor; goals that you set and reflect upon each week. You **will** most likely need to learn new skills so that your team can execute the project. Some of the skills you may learn in class, but **most of them you will learn just like the professionals do by researching on your own.** The end result of this project will be something the business partner uses and you showcase in your Southland CAPS portfolio.
- **Actively listening to Guest Speakers.** We will have about one Guest Speaker per week. These are technology and business professionals who are excited to share their knowledge and experiences with Southland CAPS associates. You **will** research the Guest Speaker and his/her company ahead of time, and develop questions you want to ask them. You may take notes for your portfolio, and possibly follow-up with the Guest Speaker, depending on the topic.
- **Actively participate in offsite visits.** We will visit several businesses per semester. You will be asked to research the business and the technology we will be seeing ahead of time, and develop well-constructed questions to ask. You may be asked to follow up after our visit.
- **Use the new skills you are learning to create and enhance your Southland CAPS Portfolio website.** This will be a portfolio website where you will showcase all of the work you do at Southland CAPS, including construction artifacts and the finished product of your project. You may also add anything you have done outside of Southland CAPS. Use this for college admissions, job applications, and outside professional work.

## Expectations

### You can expect me to:

- Plan the course AND alter that plan as needed. Each of you may be working on a different project, and those projects are rich with material for all of us to learn from.
- Function as a facilitator of your learning. Instead of “downloading” information to you, the instructor creates and maintains the environment for you to direct your own learning, just as professionals do.
- Give you feedback – both written and oral. The instructor's feedback will help guide your learning path. We may, at times, be your biggest critics, but we will also be your biggest fans. We take this responsibility seriously so we are going to expect you to perform responsibly.
- Bring my expertise into the classroom. This includes many years of formal study, professional experience and development, and stories from real life. I encourage you to bring stories to class to stimulate discussion as well.
- Bring outside technology and business expertise to the classroom. Southland CAPS wouldn't be unique and different without the many technology professionals who have assisted in

curriculum development, and will serve as guest speakers and mentors, engaging actively with you during your time at Southland CAPS.

- Be patient when you are struggling with ideas. **The struggle reveals that learning is taking place.** My goal at Southland CAPS is to train you to be a creative, critical, problem solving and productive thinker; who as an adult can meet struggles head-on, and overcome them by utilizing available resources, both internally and externally ON YOUR OWN.
- Provide clarity, guidance, directions and encouragement when the struggle becomes too great.
- Be open about options. I will be interested to hear the ideas you bring to form a class discussion or perhaps request a topic. This is encouraged as we want to find what YOU ARE passionate about and then help you grow that passion into your adulthood.
- Treat you as a professional. The more professional your appearance and behavior are, the more the adults in this world will treat you like a professional.

### **Our Expectations of the YOU, the student professional:**

- Embrace and embody professional behavior, appearance, and attitude at all times. Professionalism is expected of all Southland CAPS students when attending the Southland CAPS classroom, business partners, and visits to other businesses. We want you to start thinking and acting like the young adult professional that you can be.
- Participate in class discussions and presentations, which include both speaking up and listening.
- Complete all assignments on or ahead of schedule as a professional would do.
- Produce high-quality writing that has been proofread.
- Produce high-quality presentations of your projects for business partner and instructor review.
- Take ownership of your project; lead your team. We want you to experience and learn from this experience as if it were real, because it is. Work productively at all times. There will never be “nothing to do.” There will be no “free” time, and no time to do homework from other classes. There will always be more to research and learn.
- **Let me know your whereabouts at all times during Southland CAPS class time.** This applies whether you are in or out of the building. Our method of communication will be your cell phone and my work phone.
- If you are sick, then YOU (*not your Parents*) need to call the business partner that you are working with on the project to tell them you are not going to be in. You must also contact me, the instructor.
- You MUST copy (cc) me on ALL email communication with your mentor(s) and client(s).
- You agree not to get discouraged if you are struggling or feel you are failing on a project. There are things to be learned both in failure and success. I am here to help you learn from ALL your experiences at Southland CAPS. A failure to meet the project goal may not mean a failing grade.
- Take full advantage of this unique opportunity which has been presented to you. This means giving your best efforts to learn and grow as a young adult. If you put forth the effort, your Southland CAPS experience can be one of the greatest experiences in your high school career.

### **Strand Text and Other Resources**

Some of the learning that will take place in our class will be common to all and other times you will all need to be learning different skills based on your project work. Therefore, we will be utilizing many different resources:

- Online: There are many, many online tutorials available of varying quality. You will need to get used to researching and taking advantage of these online resources.
- Reference books: your instructor has a wide variety of reference books. These books are inventoried and a list will be provided for your reference. These will be available for checkout at the Instructor's office location at Herndon.

### Supplies

- Pens, pencils and highlighters
- Professional portfolio with pad of paper (extra refill pads)
- Earbuds for non-disruptive listening
- Each student will be provided with a set of business cards.

## Procedures and Policies

### Attendance

Daily attendance is critical in this course, especially since class periods meet for an extended period of time. It is expected that you will arrive to class on time and depart from class at the end of the class period.

- You are expected to attend at either CAPS designated location (Raytown Schools Education and Conference Center, 10750 E 350 HWY Raytown, MO 64138 and Herndon Career Center, 11501 E State Route 350, Raytown, MO 64138) or your shadowing/internship site every day that school is in session, during set class hours, unless prior authorization from your parent/guardian and your instructor is established. CAPS is legally responsible for your well-being and whereabouts during the hours of your class. We will adhere to the Southland CAPS/Raytown Quality Schools Calendar
- Occasionally it is acceptable to depart from CAPS early or arrive late. A pre-arranged absence form must be filled out and signed by a parent, administration from your home high school, a Southland CAPS administrator, and your instructor. The forms must be turned in at least 24 hrs prior to their occurrence. Keep your calendar current at all times and update as necessary with your instructor.
- Likewise, it is occasionally necessary for students to arrive early or stay late at CAPS for an exceptional opportunity. You will be made aware of these situations prior to their occurrence.
- In the event of an absence, it is YOUR responsibility to communicate that fact to your instructor.
  - **You** should call/email Mrs. Schaefer to report your absence at least an hour before class begins (as a courtesy so we will not delay an activity/speaker for you).
  - **Your parents/guardians** must also contact the Herndon Career Center at 816-268-7140 to officially verify your absence.

### Tardies

Be on time and prepared for class. In the event that you will be late, you should

- Call Mrs. Schaefer to let her know you will be late and give reason why.
  - Tardies will result in a deduction in professionalism points (unless prior approval for arriving late is arranged)
  - Lack of communication regarding your tardy will also result in professionalism point deduction.
  - You must be in the location we are meeting before the designated time in order not to be considered tardy. There are certain situations where you may have to allow more time than normal to get to the meeting location on time.

## Computer and Cell Phone Usage

- You will be assigned specific numbered computers to use. Do not use any other computer without prior authorization from an instructor.
- Your computer should be completely turned off prior to closing its monitor, and returned to the appropriate cart/storage location and plugged in at the end of each class period. Simply shutting the lid is NOT a proper shutdown.
- Just as in a job setting, cell phones are not permitted during class time unless deemed appropriate. Place phones in assigned sleeve.
- Only with approval may students listen to tutorial information, videos or music on their own headphones and should not be heard by others sitting near.
- CAPS has a Zero Tolerance policy for misuse of any communication technologies. This includes, but not limited to, email use, internet use, and basically anything you do on any technology device (including your own). Inappropriate use of technology will result in consequences. Become familiar with the policies in the Herndon Career Center Student Handbook and Raytown Quality Schools Student Discipline Policy.

## Laboratory & Site Visit Behavior

In the classroom and out in the field, it is imperative that you follow safety guidelines. A student found in violation of those guidelines and putting others at risk will be disciplined in a manner appropriate to the violation.

- In general:
  - Your space should be free of any clutter. CLEAN UP AFTER YOURSELF! Gum wrappers, water bottles, notebook fringe, etc. should be disposed of before you leave class.
  - Directions will be followed. If directions are not clear, ask questions!
- At site visits:
  - Listen carefully.
  - Do not make loud/disturbing sounds or actions.
  - Engage in the activity, ask questions, be involved!
  - NO CELL PHONES

## Academic Integrity

CAPS expects you to act with impeccable integrity. To us, this means that you are present when the class meets and that you are carrying out the assignments that you are given in an engaged manner. It implies that you are completing your own assignments, laboratories activities, project, and tests, etc..., and that your papers are adequately cited in order to note the acquisition of your knowledge and avoid plagiarizing the ideas of others.

## Student Evaluation and Grading Procedures

A student grade will be determined by calculating a percentage from their cumulative total of points earned divided by the total points possible. Grading cut offs will follow the traditional grading scale. However, the frequency and reporting of grades may not resemble a traditional school gradebook. The grading breakdown will also look different depending on if the student is in the classroom setting or at an internship. Evaluation for final grade will include, but is not limited to the following:

- **All assignments (company research, technical writing, etc.)**
- **Written assessments (will be limited)**
- **Project work; including Project Performance Review scores at the end of each project.**
- **Weekly project goal-setting and reflection**
- **Professionalism (includes things like attitude, appearance, punctuality, communication)**
- **All performance evaluations from instructor, mentors, and/or business partners.**

## **Overall professionalism**

- Preparedness – All students should come prepared for class and site visits with writing utensils, Portfolio pad, and other appropriate supplies.
- Timeliness - All students should be at their seats at the start of class. This is often the only time that everyone will be in the same room and therefore provides an opportunity to make announcements etc.
- Class Interactions - When a member of the class, student or teacher, addresses the entire group, be respectful and listen.
- Site Visits and Guest Speakers - You are expected to remain engaged throughout all presentations and site visits. Indicators of engagement include making eye contact with speaker, taking notes, asking questions. In general, all members of this class are expected to ask at least one question of all guests and hosts. This is part of the professional expectations in this course.
- Proper Dress - CAPS professional attire should be worn at all times AT CAPS or AT BUSINESSES. See CAPS handbook for appropriate vs inappropriate attire.
- Professional Products – Each student will be required to have a resume (either edit a previous resume or create a new one) in light of your work this semester. Each student may also be required to perform practice interview(s).

## **Passion Project**

Over the course of the year, students will be developing a passion project.

\*Tentative: There will be a required showcase/open house of their project. Times will be determined at a later date, which may include time outside of normal class hours.

## **Professional Development**

Each student will be required to document evidence of professional development as they strive to determine a career interest. This will be included in part of your classroom work. This may include outside class time.

Examples are attending a technology lecture/workshop, volunteer opportunities, etc. Instructor will provide opportunities on the classroom calendar. However, students may find their own according to their interests. Instructor approval is required in these cases.



Although individual components of professionalism may not make up a significant portion of your overall professionalism grade, we reserve the right to reassign values for these components in the circumstance of extreme disrespect for individual professional skills, attributes, or products. Just as an employer may fire an employee for consistent tardiness even though the employee is always dressed appropriately, performs their job well, etc. We reserve the right to drop your professionalism grade as deemed necessary in the event that you blatantly disregard particular aspects of professionalism. If such action is warranted, a meeting between all interested parties will be made. In addition, in the case that a business partner has asked a student not to return to their facility, CAPS reserves the right to remove the student from the program entirely.

I have read and understood the syllabus. Any questions I might have are listed in the space below.

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<b>Student Signature</b>	<b>Printed Name</b>	<b>Date</b>
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<b>Parent signature</b>	<b>Printed Name</b>	<b>Date</b>
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**Student received date:** \_\_\_\_\_ **Student Returned Date:** \_\_\_\_\_