

TECHS

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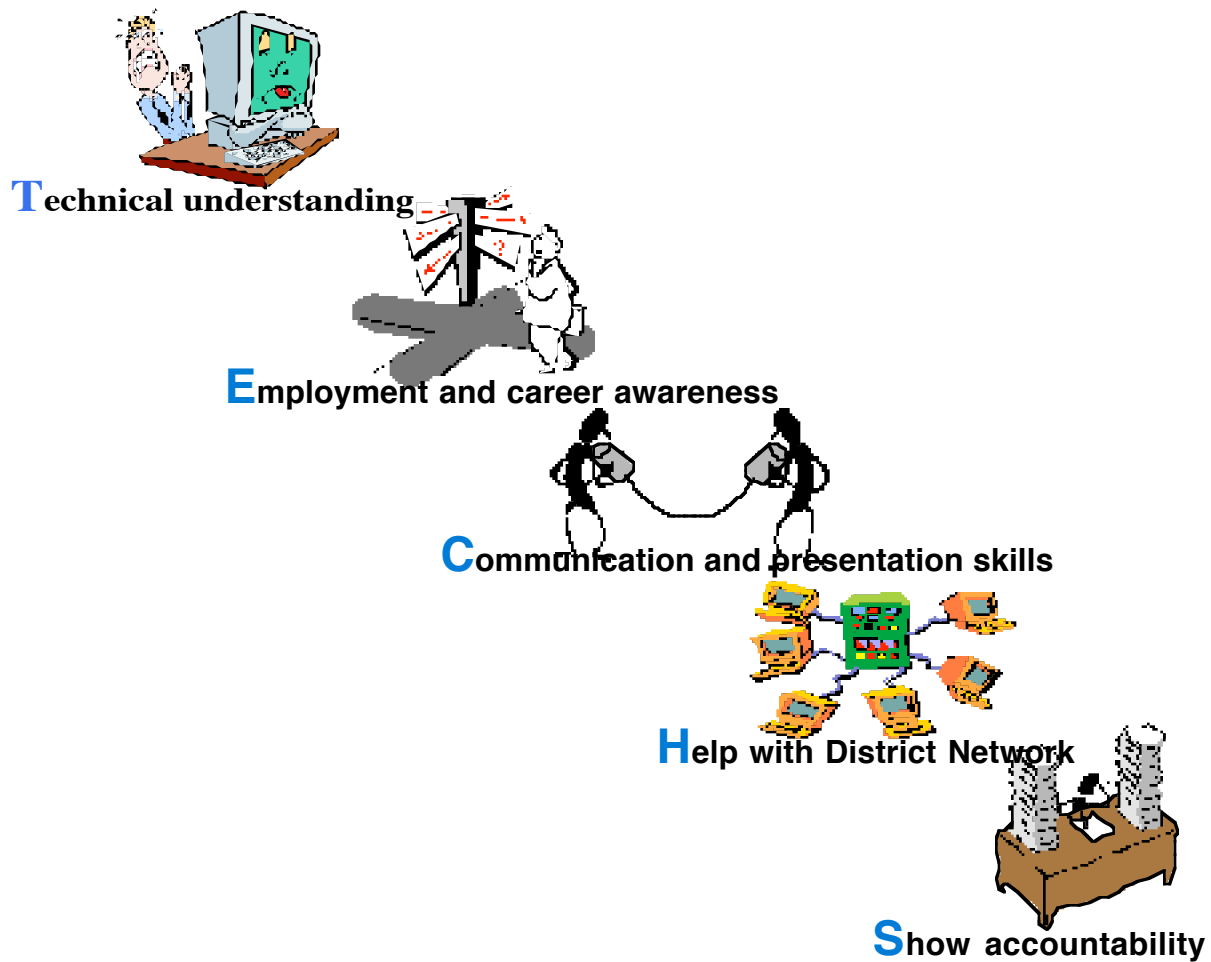


TECHS Philosophy

TECHS seeks to expand on the 2004-08 Technology Education Challenges in High Schools (TECHS) course offering “that provided technical and career opportunity awareness for students with skills in information technology”.

An increased emphasis in TECHS 08-09 will be striving to move students from consumers of information into collaboration and sharing of information with each other and for others such as students, staff, and community.

TECHS Goals in 2008-09



TECHS Instructional and Support Team

The TECHS project will be coordinated by the following team members:

- John Stritt - TECHS director
- Jason Everett - Filming and scheduling director
- TECHS ESU Partners
 - ESU 1 - Jim Hopkins
 - ESU 2 - Rick Williams
 - ESU 4 - Gregg Robke
 - ESU 6 - Lynn Herr
 - ESU 7 - Sue Oppliger
 - ESU 8 - Jill Bates and Jim Dow
 - ESU 9 - Jackie Ediger and Lois Hafer
 - ESU 10 - Graci Gillming
 - ESU 11 - Robert Hays
 - ESU 14 - Craig Hicks
 - ESU 16 - Roger Adkins

ESU 10 technology staff members will serve as course instructors. Bios and contact information can be found for the TECHS instructional team at <http://www.studenttechs.org> and on the TECHS myeLearning site - <http://esu10.myelearning.org>

TECHS Vision

TECHS is for students with a strong interest in technology and careers related to that field. Even though students as early as middle school could succeed in the course, it is structured for students in grades 9-12.

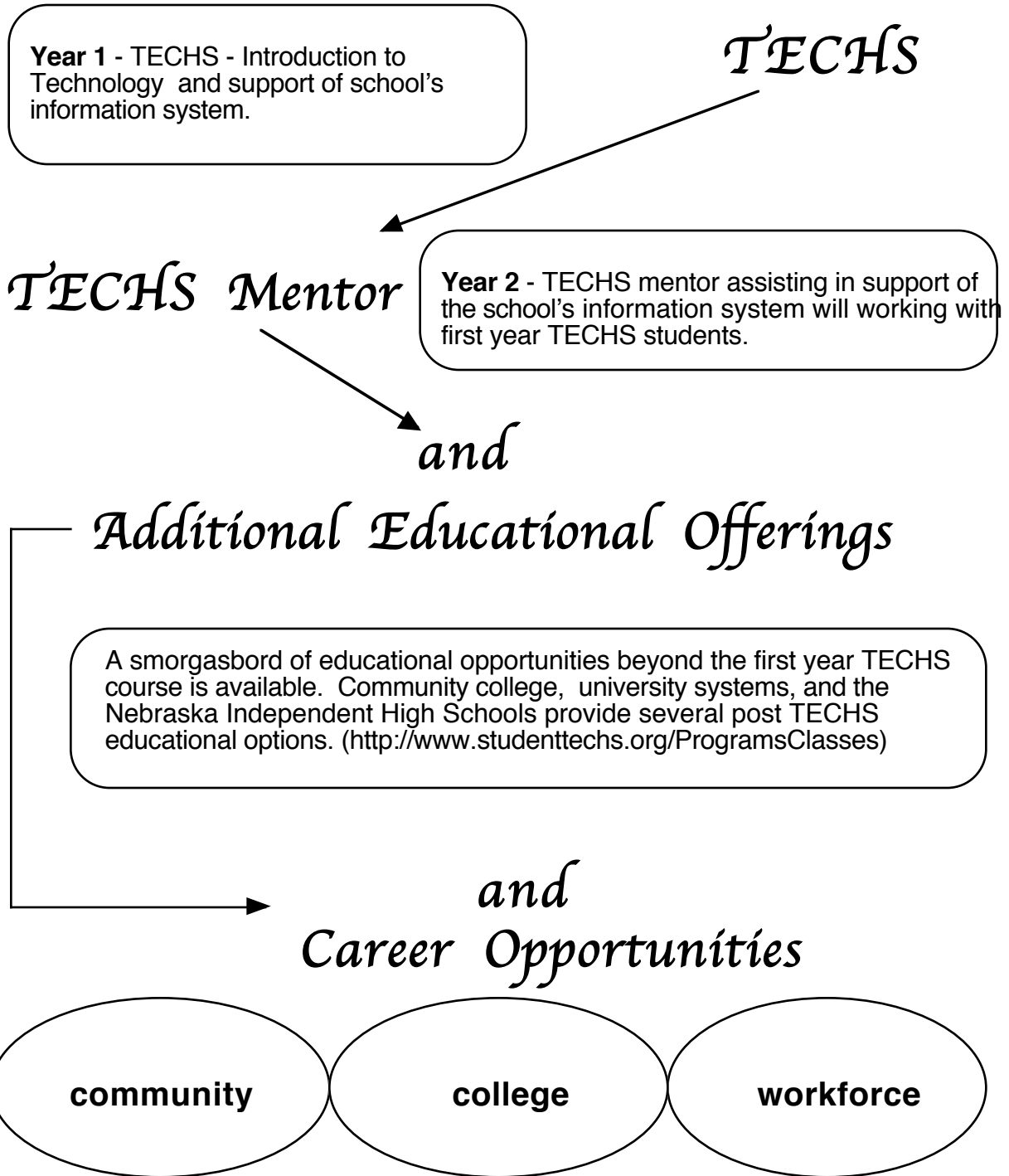
In addition to having an **interest** in technology, students should have basic technology understanding and skills. These should include:

- keyboarding skills
- application experience in microsoft office, appleworks, or both integrated programs
- browser awareness
- general OS understanding in Windows, XP, or Mac OS

Although TECHS is a one year course, a student who successfully completes TECHS prior to their senior year may wish to extend the TECHS experience by serving as a TECHS mentor, providing support for the school network, and/or extending their technology knowledge by taking independent study technology classes. Extended course opportunities are available through community and four year colleges and universities.

The following flowchart outlines a two or three year plan for TECHS students interested in extended their study of technology while still in high school.

TECHS Flowchart



TECHS Course Design

The TECHS course consists of ten units of study. Each unit is broke down into a series of chapters with each semester consisting of five units. The curriculum plan for 2008-09 can be found at <http://www.studenttechs.org/techscur0809>.

Special Projects:

Keeping in mind the idea of having students develop a series of “production” outcomes, TECHS 0809 has added an application activity as part of most units. All TECHS teams are encouraged to complete and submit their special project applications for review by the TECHS instructional team. **Throughout the year, honored projects will be identified and recognized by the TECHS instructional team for each special project.**

Conferences:

As both the economies of time and transportation have limited the ability to have statewide conferences, the TECHS program will be working with ESU partners to have regionally based activities. As most schools have the ability to video conference, we are looking at adding a statewide mini mega video conference. Conference events that we are looking at for this coming year include:

- The first conference will be an inservice in support of Unit IV - Building A Computer. These conferences will be scheduled regionally throughout the state in November and early December. The dates are yet to be determined.
- The TECHS instructional team will work with ESU partners to host a regional conference in support of technology. These conferences will be scheduled during the second semester of the course.
- A TECHS mini mega video conference will be scheduled in April 2009.
- TECHS school instructors should identify career or technology related conferences in their area.

How is the course delivered?

As this is a technology based class, the goal is to deliver the class in an electronic format. Aside from this manual and Unit I, all class lesson materials will be shared through the techs.mylearning.org course management program. **Some items you may elect to print off and give to your students but it is**

recommended that they use the techs.mylearning site for course instructions.

For 2008-09, we are delivering our video and audio content for the course in the following ways:

- All lesson multimedia content will be available for viewing off of a new web source location. The content will be in a flash format which should improve viewing speed. This site will also allow students to view lessons individually as well as a group.
- Podcasts - We will continue to support distribution of the content through iTunes library. In order to access the podcasts, you will need to establish an account by requesting a login (your email address) and password (we will provide you with this). Note - students will not be provided with an account but these podcasts can be shared using an IPOD or a computer.
- DVD - In the event that you cannot download a video from our server or in podcast format, a DVD with those lessons will be mailed to you.

Although the timeline for delivering the curriculum is controlled by the instructor, **the TECHS instructional team encourages schools to follow the guideline below in order that the students might be able to complete the entire curriculum.** The facilitating classroom instructor may wish to leave out or add supplemental activities in support of a unit of study. See pages 15 and 16 for curriculum descriptions.

First Semester

Unit I - August/September

Unit II - September/October

Unit III - October

Unit IV - October/November

Unit V - November/December

Second Semester

Unit VI - January

Unit VII - January/February

Unit VIII - February/March

Unit IX - March/April

Unit X - April/May

TECHS Support

In some ways the TECHS course resembles technology itself. Just as soon as you think you have some understanding it changes. After a while, you decide the only way to stay on top is to realize that it is ever-changing and that you simply adapt as you go to the technology and in this case to the class.

For first year participants, there will be some growing pains. This may be your first experience of using a class that is created by someone else. In addition to the new

curriculum, this may also be the first time you have used a course management program

and accessed different video and audio content electronically.

We hope that the fall orientation day will prepare you for the class and what lies ahead. **As the year goes along, we will have several resources to assist in answering new questions.**

- Each week, John Stritt will blog about the upcoming week. TECHS instructors are encouraged to share comments related to the blog information or questions they may have about the course.
- Social networking will be added for all TECHS instructors. In the social networking area, teachers will be able to find out about technology resources, share their resources, share about their students TECHS achievements, and more.
- If you have a question about a particular lesson, please send an email to the presenter of that lesson. The email address will be located at the bottom of each lesson plan.
- If you have a question about passwords, lesson availability, downloading video problems, cyber citizenship netiquette issues between participating schools, etc., please send an email to jstritt@esu10.org
- If you have comments or concerns you wish to share with the instructional team, please share these with your ESU sponsor. They will pass them on to us.
- Reflection surveys - At the end of each semester, a student and staff online survey will be available asking you to reflect about the course.

TECHS Instructor Responsibilities

As the district instructor for TECHS, you will serve as the person of record for your students and serve as coordinator of the project between your ESU TECHS partner and the ESU 10 instructional team. In addition to the TECHS classwork, you will also be responsible for supervision of your students as they might provide support for your district's information network.

TECHS instructor responsibilities include:

- notify ESU 10 (jstritt@esu10.org) and your ESU TECHS representative of your interest in participating in the TECHS course.
- attend a TECHS pre-school orientation meeting (to be arranged through your ESU)
- create guidelines for enrollment, class schedule, and student assessment
- submit a list of students who will participate in the TECHS course (jstritt@esu10.org)
- monitor, assess, and manage student progress during the course
- schedule a meeting with parents/guardians of students to share about the course and the responsibility as well as the obligations their sons/daughters will have
- direct supplemental activities to support instructional units or district network technical support activities.
- organize conference participation for your TECHS team.

TECHS Student Evaluation/Assessment

Evaluation of TECHS students is an important key to maintaining student involvement and interest in the program. As noted in the student goals, accountability is an important outcome. Accountability includes carrying out all assigned TECHS projects as well as maintaining accurate records of those responsibilities.

Providing your TECHS students with a clear picture of the accountability procedures that will be used for this course will provide you as the instructor with a tool for recording student achievement.

The evaluation phase for TECHS is the sole responsibility of the district TECHS instructor. Some evaluation tools for TECHS assessment have been or will be created for you by the instructional team, but it will be TECHS instructor's responsibility for measuring student performance based on which tools he/she wishes to use.

It is recommended that TECHS be an approved for credit class. As the class will include approximately 60 instructional lessons, some supplemental activities provided by the district instructor are encouraged. Supplemental activities that extends the TECHS course experience include:

- completing supplemental activities outlined within each TECHS unit plan
- having TECHS students assist in supporting the district's LAN system
- completing other activities as created by the TECHS district instructor.

The tools for evaluation are based around the student outcomes. Evaluation tools will include:

- Understanding of technology
 - TECHS instructional lessons.
 - Attendance or participation in lessons
 - Complete lesson assignments provided by TECHS instructional team
 - Complete and submit special project activities
 - Complete assigned quizzes
- Communication
 - Provide inservice for staff or students
 - Assist in technology awareness by using such internet based activities as podcasting, blogging, emailing, web site, etc.
 - Student performance support assistance to district staff
- Accountability
 - Record all TECHS class activities
 - Record all tech support activities
 - Record all preparation time for inservice or assigned activities

- Careers
 - An eportfolio account will be used to host examples of TECHS work
 - Each TECH will create an Individual Student Plan for learning, earning and living.
 - Prepare and submit a resume and letter of application.

Sample Grading Plan:

Following is a sample grading idea that could be used for the course:

- 5% Class Attendance
- 15% Complete recording of activities (accountability)
- 40% Complete assignments created by TECHS instructional team
 - Inservice presentations
 - Podcast, streaming video, blogging activities
 - Build computer
 - Remote learning
 - eLearning activities (discussion boards, chats, etc.
 - daily reflective journalizing
- 15% Post activity quizzes (eLearning or created by district LAN manager)
- 25% District Tech Support
 - Completion of support activities
 - Staff Evaluations

TECHS Equipment Requirements

The TECHS program requires that students have access to certain hardware and application services.

Technology support that is provided by TECHS includes:

- techs.myelearning.org - Each instructor and student will be provided a learning management account through the Angel program. All teachers will have viewing, gradebook, and editing privileges.
- studenttechs.google.org - Each instructor and student will be provided a studenttechs.google.org google suite account. Email services will not be provided through Google prior to second semester and will only be allowed to schools who sign a waiver for approval for email. **Note that access to google is subject to filtering limitations imposed at the district or ESU level.**
- Web server - ESU 10 will provide a hosting service for web and podcast files.
- Streaming server - If a school elects to stream an event at their school, they can request to use the TECHS streaming server in support of that activity.

Technology support that must be provided by the participating school:

- Two-way video conferencing technology - As the class will be presented asynchronously, there is no requirement for having two-way video conferencing equipment. As schools throughout the state are moving to IP based video conferencing technology, these medium may be used for a requested one-to-one conference, for a group conference, or for a school training on the use of two-way

video conferencing technology.

- Maintenance support essentials -
 - A toolkit should be available to assist in routine hardware maintenance and support.
 - Additional equipment that should be part of that support kit include a tester/toner kit and an ethernet termination and stripper kit.
 - As part of the computer support and maintenance series, the ESU 10 maintenance team will share about how to set up a technology workstation in your school. Schools will be encouraged to setup or upgrade their current workstation area with a second toolkit, static mats, turntables, etc.
 - For additional information regarding maintenance support tools go to (<http://www.studenttechs.org/equipment0708>)
- Classroom equipment essentials -
 - During a TECHS instructional lesson, each TECHS student will need access to a computer and the internet. Students will need a computer to access their myelearning account as well as view other internet resources.
 - As many of the lessons will be in video format, a projection system connected to a computer will be required to share the lesson.
 - For additional information regarding hardware that supports TECHS, go to <http://www.studenttechs.org/hardware0708>
- Software/application essentials - TECHS looks to feature open source or free platform neutral software programs. The following is a list of software applications that will be used during the course:
 - Internet browser i.e. Firefox, Internet Explorer, Opera, Safari, etc.
 - Web design program i.e. Manila, Dreamweaver, Frontpage, etc. **We will also be introducing a new web program WordPress. If students elect to use this program, they will be able to save their files on the ESU 10 server.**
 - Adobe Acrobat Reader
 - Integrated applications program i.e. microsoft office, IWorks integrated program series, etc.
 - Windows media player, Quicktime player, and Flash player (free programs)
 - Video or screen capture program i.e. Jing (mac and PC) ISHOWU (macs) CamStudio (PC)
 - Garageband (mac) Audacity (pc and mac)
 - Quicktime Pro for video editing (mac or pc)
 - For more software information - <http://www.studenttechs.org/software>
 - Other programs will be listed as introduced during the TECHS year.

FAQ's About TECHS

Techs Curriculum Questions:

How many TECHS lessons should be covered each week?

As there are 60 lessons for the year or about 35 per semester and there are 18 weeks per semester, the class should cover at least three chapters per week in order to complete the entire course.

Does each TECHS lesson take one class period?

Some lessons can be completed within a class period while others will take more time. As most units have supplementary activities, the lessons can easily be extended to enhance student understanding.

Are the TECHS students required to complete all lessons?

No. Teachers may wish to skip some units and supplement in other units that they would like to include.

How important is it to complete the lessons based on the suggested calendar times?

Lessons can be completed as directed by the instructor. As some activities have some time requirements for TECHS contests, those lessons must be completed in timely order to fully participate in the TECHS outcomes.

How will curriculum materials be released?

As TECHS is based upon the use of technology, the delivery of the course will be through electronic methods. Unit content which includes assessments will be delivered through the <http://techs.mylearning.org> learning management system. Video content will be distributed via a private web site and podcasting site. In the event that the video content cannot be downloaded, a DVD may be requested.

How often will the curriculum be released?

The TECHS content will be released one unit prior to the designed curriculum timeline. It is recommended that the course be delivered in the order in which it is presented. As an instructor, you have the option to skip chapters or units as well as supplement additional information.

TECHS School Regulations:

How does TECHS fit in with Nebraska's Rule 10 and state accreditation?

In checking with NDE, we wanted to confirm the status of TECHS as it pertains to Rule 10. NDE agreed that TECHS as it is currently delivered would be considered as a web based class offering. In submitting a district's yearly report, you would list this class as a web class offering with the district's assigned teacher as the instructor of record.

What certification requirements are needed by the district's TECHS facilitator?

Any teacher who has a Nebraska certification for the grade level the class is presented to is considered as a qualified instructor for this technology based course.

Does this class need to meet at a specific time of day?

As the class is delivered in an asynchronous way (not real time), you can schedule your class any time during your school day.

Does the class need to meet every day?

Based on past years, it is believed that there is enough curriculum material to easily support a class that meets 5 days a week. As the instructor determines what material is covered, the depth of covering that material, and when it is delivered, the course can be molded to fit the days needed for the course.

Can TECHS be ran as an independent study class?

We believe that the best way to handle the course is to have it as part of the regular school curriculum. We also realize that due to staff limitations or low class enrollment, an independent study might be the best option for the TECHS class. As each school becomes the facilitator of the course, they must decide which method will work best for their situation.

Could TECHS be delivered as a live distance education class?

As one school might have a teacher for the class and another does not, the two schools could agree to offer the class at a specific time each day using video conferencing equipment. Note that by offering the course in this way, each school would be eligible for incentive dollars (up to \$1,000) as part of the LB 1208.

TECHS Student Questions:

Can middle school or 9th graders take this course?

Grades 10 - 12 are the recommended grade levels as students at these grade levels will have greater technology awareness and interest as it relates to vocational and personal applications.

What pre-requisites do students need prior to taking TECHS?

Students should possess keyboarding, application experience, and some very general understanding of either a windows or macintosh operating system. It is also suggested that students who take the class should have an interest in technology.

Can a student take only one semester of the class?

A student may take only one semester. It is strongly recommended that in order for a student to take second semester, they should have successfully completed semester one for the course.

Are TECHS students expected to help with the schools district's LAN?

No. Teachers may elect to have some or all of the students assist with some technology support at the LAN level. Allowing students to assist in LAN support provides them with a great opportunity to demonstrate technology understanding and improve on communication skills as they deal with one-on-one and group interactions.

TECHS Support Questions

Is the TECHS instructor required to submit any reports to the TECHS instructional team?

No formal reports are required. At the end of each semester, a teacher and student survey will be presented to get feedback on the course.

If the TECHS instructor or students have questions about a lesson, who should they contact?

At the bottom of each chapter lesson is contact information. Unless it is an urgent, it is requested that you send any question to the email address listed. If you get no response, please send an email to your ESU representative or jstritt@esu10.org

What types of support might our ESU representative provide?

Your ESU representative will visit with you about their plans for supporting TECHS. A major role will be for the ESU to share about your progress and concerns with the TECHS instructional team.

2007 - 08 TECHS Curriculum

First Semester

Boldfaced items reflect Special Projects

Unit I - Introduction to TECHS

- Chapter 1 - TECHS Application
- Chapter 2 - Keys to Success in an Online Class
- Chapter 3 - Introduction to MyElearning
- Chapter 4 - Setting up your MyElearning Account
- Chapter 5 - Cybercitizenship
- Chapter 6 - TECHS Special Projects
- Chapter 7 - TECHS Portfolio

Unit II - Tools of the Trade

- Chapter 8 - Workstation and Toolkit
- Chapter 9 - Network Wiring
- Chapter 10 - Troubleshooting 101
- Chapter 11 - LAN Support Process
- Chapter 12 - Parent/Guardian Awareness
- Chapter 13 - **Mobile Technology Project**

Unit III - Web 2.0 and the TECHS Web Site

- Chapter 14 - Code of Ethics
- Chapter 15 - Introduction to Web 2.0
- Chapter 16 - Other Google Web 2.0 Tools
- Chapter 17 - Collaborative Docs and Spreadsheets
- Chapter 18 - Selection of HTML Editor
- Chapter 19 - **Designing your TECHS Web Site**
- Chapter 20 - Arranged Video Conference

Unit IV - Computer Platforms & BAC

- Chapter 21 - Introduction to Battle of the Platforms
- Chapter 22 - Meet Mr. PC
- Chapter 23 - Meet Mr. Mac
- Chapter 24 - Meet Mr. Linux
- Chapter 25 - Does the Platform Matter?
- Chapter 26 - PC & Mac Tips & Tricks
- Chapter 27 - Introduction to Building A Computer
- Chapter 28 - BAC Followup
- Chapter 29 - **Linux Special Project**

Unit V - Tools for Authoring on the Web

- Chapter 30 - Introduction to Podcasting
- Chapter 31 - **Creating a Podcast - Special Project**
- Chapter 32 - **Screen Capture "Help Videos" - Special Project**
- Chapter 33 - Semester in Review

Second Semester

Unit VI - Technology in the Classroom

- Chapter 34 - Your Dream Job
- Chapter 35 - RFP Preview
- Chapter 36 - Know Your Computer
- Chapter 37 - Printers
- Chapter 38 - More Classroom Technology
- Chapter 39 - Designing a Whiteboard
- Chapter 40 - **Submitting an RFP**

Unit VII - Curriculum Support

- Chapter 41 - Technology Programs of Study
- Chapter 42 - Streaming Resources
- Chapter 43 - Intro to Video Conferencing
- Chapter 44 - TECHS Role in Video Conferencing
- Chapter 45 - Information Literacy - Reviewing A Website
- Chapter 46 - **Curriculum Resource Page**

Unit VIII - Networking

- Chapter 47 - Your Educational Plan
- Chapter 48 - Network Devices
- Chapter 49 - Firewalls and Wireless Technology
- Chapter 50 - Virus Detection and Management
- Chapter 51 - Spyware Detection and Management
- Chapter 52 - **Community Resource Page**

Unit IX - Programming

- Chapter 53 - **Beyond TECHS & Scholarship Applications**
- Chapter 54 - IT Essentials - The Next Step
- Chapter 55 - Programming Overview
- Chapter 56 - HTML Elements
- Chapter 57 - CSS
- Chapter 58 - Javascript

Unit X - It's A Wrap

- Chapter 59 - EOY Maintenance
- Chapter 60 - EOY Reflections (Surveys)