

# Benchmarks

A green light to greatness.



## Columns, February 2012

- Network Connection
- Link of the Month
- Helpdesk FYI
- RSS Matters
- ITC News
- Training
- Staff Activities

[Home](#) » [Issues](#)

## Benchmarks - February, 2012

### [Campus Computing News](#)



#### Captain's log, Stardate 2012.44: *theEnterprise* Publication Ending

By [Cathy Gonzalez](#), ITSS Communications, Marketing, and Training Manager

The quarterly news update, *theEnterprise*, launched its first publication in January 2006. Eighteen issues later, I am writing the last issue. The move to a system-wide IT model now calls for a communication model on a larger scale. EIS news going forward will come out as news articles along with all other IT Shared Services (ITSS) related communications.

[Read more](#)

### [New Sage Hall Learning Commons Features State-of-the-Art Collaboration Technology](#)



By [Dr. Elizabeth Hinkle-Turner](#), Director - Academic Computing Technical Service

University community members coming in to Sage Hall to either conduct business at the many new student academic offices located there or just to sneak a curious peak at the building's ongoing renovations should pay a visit to the second floor to glimpse one of the greatest new features of the facility: **learning commons study areas for students.**

[Read more](#)

### [New faces of High Performance Computing](#)



By [Dr. Scott Yockel](#), HPC Services Manager

This semester has started off with the addition of quite a few new faces to high performance computing. We have finally filled the open HPC System Administrator position and have added two part-time graduate research assistants to the HPC Services Team.

[Read more](#)

## By the Numbers

EIS Since Jan 1<sup>st</sup>, as of Feb 14th

Total Logins to <a href="#">EIS</a> since Jan 1 <sup>st</sup> , 2012	530,014
Average Per Day (Unique users)	11,778
Max logins (Unique users) was on Jan 17 <sup>th</sup> , 2012	29,302

## Blackboard Learn: Email vs. Messages in Your Course



Blackboard

By [Rita Knoblock](#), CLEAR Faculty Help Desk Manager

Did you know there are **two** ways to send mail to your students in Learn? Use **Messages** if you wish to keep all of your correspondence with students inside the course. Use **Email** if you want to send email to students' EagleConnect accounts and receive mail back from them in your Exchange account on Outlook.

[Read more](#)



## EDUCAUSE Conference News



West/Southwest Regional Conference 2012  
February 20-21  
University of Denver, Denver, CO

By [Claudia Lynch](#), Benchmarks Online Editor

The annual EDUCAUSE West/Southwest Regional Conference is coming up next week. Additionally, the deadline for submitting a proposal for the annual conference, to be held in Denver this year, is February 21.

[Read more](#)



## **TODAY'S CARTOON**

Click on the link above for an information age laugh.



### Contact Us:

**University Information Technology**  
1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

### Visit Us:

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>



### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)

# Benchmarks

A green  
light to  
greatness.

UNT

ABOUT BENCHMARK ONLINE SEARCH ARCHIVE SUBSCRIBE TO BENCHMARKS ONLINE

## Columns, February 2012

Network Connection

Link of the Month

Helpdesk FYI

RSS Matters

ITC News

Training

Staff Activities

[Home](#)

## Campus Computing News



### Captain's log, Stardate 2012.44: *theEnterprise* Publication Ending

By [Cathy Gonzalez](#), ITSS Communications, Marketing, and Training Manager

The quarterly news update, *theEnterprise*, launched its first publication in January 2006. Eighteen issues later, I am writing the last issue. The move to a system-wide IT model now calls for a communication model on a larger scale. EIS news going forward will come out as news articles along with all other IT Shared Services (ITSS) related communications. A new website for ITSS is in the early stages of being developed and news items are regularly being posted there. The web site's address is <http://it.untsystem.edu>. In the near future you will be able to subscribe via RSS to news feeds from the site.

Another significant change that will occur within the next several months will be the incorporation of the EIS web site (<http://eis.unt.edu>) as a sub site under the ITSS parent site. The EIS site will continue to have the same features but will conform more closely to the style of the parent site.

I have been privileged to be the editor of *theEnterprise* beginning with our original implementation of PeopleSoft and in the subsequent years. Many of you regularly contributed information regarding our many successes and this publication was effective due to the partnership you shared with me in getting the word out about EIS. Readers of *theEnterprise* extended far beyond the borders of the UNT System - other institutions of higher education within and outside of the United States have regularly been interested in our IT efforts due to the reputation we have for innovative enterprise application usage. Thank you for your continued support over the years and know that I will still be popping up with my journalist hat on as we continue letting the world know about the IT happenings at all our institutions.

### Final issue of *theEnterprise*

EIS Quarterly Status Report, *theEnterprise*, is available [on the EIS web site](#). Report highlights include:

- Advancement Project to move to Raiser's Edge
- Blackboard Learn pilot completed successfully
- International Admissions New Orientation process
- Self-service 1098-T forms saves thousands of postage dollars



#### Contact Us:

**University Information Technology**  
1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060



#### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



#### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

**Visit Us:**

Sage Hall, Room 338

<http://it.unt.edu/benchmarks/>

**Site last updated on April 22, 2016**

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)

# Benchmarks

A green  
light to  
greatness.

The UNT logo features the letters 'UNT' in a bold, white, sans-serif font, centered within a circular graphic. The graphic consists of concentric circles and radial lines, creating a grid-like pattern that resembles a globe or a technical diagram. The background of the logo is a dark green color.

## Columns, February 2012

[Network Connection](#)

[Link of the Month](#)

[Helpdesk FYI](#)

[RSS Matters](#)

[ITC News](#)

[Training](#)

[Staff Activities](#)

[Home](#) » [issues](#) » [2012-02](#) » [New Sage Hall Learning Commons Features State-of-the-Art Collaboration Technology](#)

## New Sage Hall Learning Commons Features State-of-the-Art Collaboration Technology

By [Dr. Elizabeth Hinkle-Turner](#), Director - **Academic Computing Technical Service**

University community members coming in to Sage Hall to either conduct business at the many new student academic offices located there or just to sneak a curious peak at the building's ongoing renovations should pay a visit to the second floor to glimpse one of the greatest new features of the facility: **learning commons study areas for students**. A little over a year ago, the first 'learning commons' facility - the Eagle Commons - was opened by the library and has proven to be a great success with students. Showcased in [this Benchmarks Online article](#) last year, the library learning commons area has cozy study areas, technical work facilities and individual rooms for meetings and study groups. The learning commons areas in Sage Hall aim to provide the same atmosphere and some similar services.

Dr. Celia Williamson, Vice-Provost for Educational Innovation, is excited about the new facility and states,

*"The library . . . has been very helpful in our work on this project. We'll have a dedicated kiosk to help students connect up to the library - and a 'hotline' to facilitate that, as well. Of course, students can connect with the library from their own devices - but we're hoping a dedicated 'station' will help students remember that resource and recognize the important role of the library in their collaborative learning experiences here at UNT. We are also hoping that what we learn at this location will inform our work as we establish as many as two other areas in Sage Hall."*

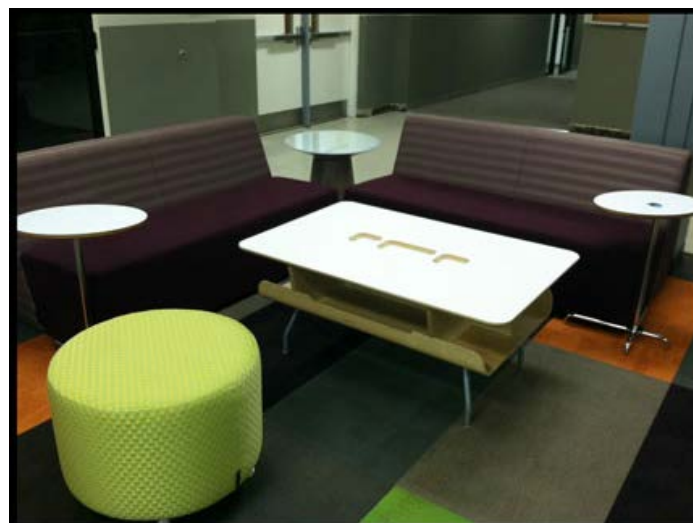
Completed only a few days ago, the Sage second floor commons is a smaller area with comfortable study alcoves and plenty of wall outlets for laptop use. This area also offers some exciting collaborative technology for students with two [Steelcase media:scape](#) collaborative work spaces. These workspaces contain a large flat-panel display and a table unit where up to 4 laptops can be connected. Laptop users can easily switch their display images on the larger screen for work and study purposes. The media:scape laptop connectors work with both Macs and PCs. Mac users will need to have their display adaptors handy to hook into the unit. It is hoped that such a display feature in a comfortable work environment will make those group project assignments a more rewarding and creative learning experience. There is no need to reserve the unit or use any specialized equipment. You just sit down, hook up, and go!

In addition to the technology, comfortable and attractive furniture and wonderful task lighting is featured in the space. All UNT community members are encouraged to check out the new area and communicate its location and features to students. A larger learning commons area is planned for the first floor of Sage Hall once funding becomes available.

Below is a photo gallery of the new Sage Hall learning commons:



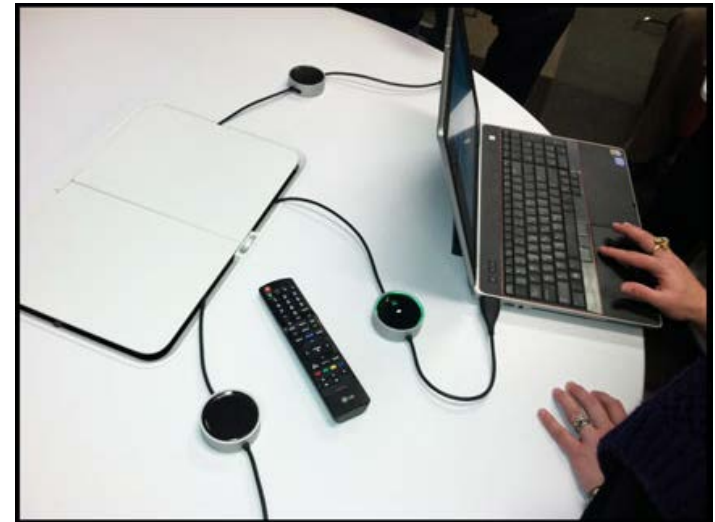
*The Sage Hall second floor learning commons features comfortable and attractive furniture and study spaces*



*Furniture can be moved around into different groupings as needed*



*Each of the two media:scope units can accommodate up to four laptops*



*It is easy to hook up your Mac or PC laptop and view it on the larger display*



*Some members of the Facilities and UIT staff enjoy checking out the media:scape*



### Contact Us:

**University Information Technology**  
1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

### Visit Us:

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>



### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)



# Benchmarks

A green  
light to  
greatness.



UNT

ABOUT BENCHMARK ONLINE SEARCH ARCHIVE SUBSCRIBE TO BENCHMARKS ONLINE

## Columns, February 2012

Network Connection

Link of the Month

Helpdesk FYI

RSS Matters

ITC News

Training

Staff Activities

[Home](#) » [issues](#) » [2012-02](#) » [New faces of High Performance Computing](#)

## New faces of High Performance Computing

By [Dr. Scott Yockel](#), HPC Services Manager

This semester has started off with the addition of quite a few new faces to high performance computing. We have finally filled the open HPC System Administrator position and have added two part-time graduate research assistants to the HPC Services Team.

### HPC Services Team

- **Ali Siavosh-Haghghi**, HPC System Administrator, has joined us from University of Missouri in Columbia, MO where he earned his PhD in Physical Chemistry and was the HPC SysAdm in the Chemistry Department for 7+ years post degree, while is continued as a post-doctoral researcher. He has significant experience compiling various computational chemistry codes for parallel computing and has a particular expertise with numerous molecular dynamics simulation codes. His prior research has focused on condensed phase including topics such as surface phenomena (surface melting, crystallization, equilibrium shape of a crystal, grain boundaries...) as well as non-equilibrium molecular dynamics (shock dynamics, energy dissipation in crystals and through grain boundaries...). His background will complement the ongoing research in both the Materials Science and Chemistry Departments here at UNT.
- Graduate Assistant **Charlie Peterson** is from Prof. Angela Wilson's group in Chemistry, who will help with the large volume of chemistry and materials science user requests.
- Graduate Assistant **Mahzabeen Islam** is from Prof. Krishna Kavi's group in Computer Science and will help maintain the integrity of the hardware, MPI profiling of the various user written scientific codes, and help update our internal administrative database.

### Growth

These new faces will have a direct impact on the level of service that we are able to provide the growing number of faculty research groups (now 45!) that the team supports across campus: Chemistry (9), Physics (8), Math (7), Materials Science (6), Biology (3), Computer Science (3), Electrical Engineering (3), Materials & Energy Engineering (2), Engineering Technology (1), PACS (1), HSC(1), UNT-Dallas (1). This semester there are three computational courses being taught (Chemistry, Physics and Materials Science) which has increased the total number of users of Talon to nearly 250.



#### Contact Us:

**University Information Technology**  
1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

Visit Us:



#### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



#### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)

# Benchmarks

A green  
light to  
greatness.

UNT

ABOUT BENCHMARK ONLINE SEARCH ARCHIVE SUBSCRIBE TO BENCHMARKS ONLINE

## Columns, February 2012

### Network Connection

Link of the Month

Helpdesk FYI

RSS Matters

ITC News

Training

Staff Activities

[Home](#) » [issues](#) » [2012-02](#) » [network-connection](#)

## Network Connection

By [Dr. Phillip Baczewski](#), Senior Director of Academic Computing and User Services and Deputy Chief Information Officer for University Information Technology

### In Service to Google

Back when the Internet was young, you couldn't just "Google" something. Internet search engines were few and far between until [Digital Equipment Corporation](#) came up with a service called [AltaVista](#) in 1995, one of the first truly useful sites of its kind. Before that, you had to rely on web pages that were lists of other web pages that people would compile to create catalogs on topics of common interest. So in 1998, when a couple of graduate students at Stanford University came up with a better method of searching for and finding relations between web sites, it didn't take long for this new search engine to catch on and become a standard tool of your typical Internet user. And now, "Google" is a verb.

By 2001, Google was a growing concern and was one of the more successful Internet sites to survive the "[dot-com bubble](#)." With a wad of investment capital in their pockets, Google began acquiring other startup companies and was able to issue a stock IPO by 2004. Google soared in popularity because the search service became one of the most reliable tools on the Internet by not just returning random results, but by being able to measure the popularity of a page by how many other pages linked to it. Google was able to build on the popularity of its search service by developing some additional services like Google Mail (GMail) and by acquiring some already popular sites like [Picasa](#) and [YouTube](#).

Google eventually had to figure out how to make money other than from investment sources. I turned out that the Internet is a pretty good place to do advertising. Google bought a company called [DoubleClick](#) that had figured out a way to track when Internet ads are viewed. Google was also able to integrate targeted advertisement within its search service and other online offerings. But Google's various services are so useful, the ads are sometimes hardly noticeable.

### Collect, store, analyze ...

One thing Google does very well is to collect, store, and analyze information. This isn't just information gleaned from indexing web sites. It is also information analyzed in people's GMail accounts, their YouTube posts, or on the many other services now provided by Google. It's likely that their ability to analyze information allows them to more effectively place ads and generate ad revenue by enticing users of their service to click on an ad link.

It was [big news](#) when Google recently announced changes in their privacy policy and terms of use. Google's [new privacy policy](#) states. "We use the information we collect from all of our services to provide, maintain, protect and improve them, to develop new ones, and to protect Google and our users. We also use this information to offer you tailored content -- like giving you more relevant search results and ads." It should be noted that their [new terms of service](#) still gives Google and their partners a perpetual license to "host, store, reproduce, modify, create derivative works (such as those resulting from translations, adaptations or other changes we make so that your content works better with our Services), communicate, publish, publicly perform, publicly display and distribute" anything you upload or generate on their services.

### Who is serving whom?

The tech site [gizmodo.com](#) has [commented](#) on how these changes at Google may affect an average Google user. If you only use Google Search and anonymously use Google Maps, then perhaps not much. However, many Google services know your name, e-mail address and other personal information. Their new policy states, "If other users already have your email, or other information that identifies you, we may show them your publicly visible Google Profile information, such as your name and photo." How does Google know if "other users" legitimately have your email information? Google doesn't say.

Is Google serving the Internet public, or are we now serving Google? While Google may not care about you individually and may be more interested in large-scale trends, the fact that they are now (as of March 1, 2012) tracking your personal information across all their services makes the argument of anonymity and aggregation a little less supportable. Even "anonymous" activities like search may be less so because of Google's use of "technologies to collect and store information when you visit a Google service." So if you want privacy, stay away from Google and the Internet. It's hard to be anonymous on the Internet. If you don't believe me, just Google your own name.



### Contact Us:

**University Information Technology**  
1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

### Visit Us:

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>



### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)

# Benchmarks

A green  
light to  
greatness.



UNT

ABOUT BENCHMARK ONLINE SEARCH ARCHIVE SUBSCRIBE TO BENCHMARKS ONLINE

## Columns, February 2012

Network Connection

**Link of the Month**

Helpdesk FYI

RSS Matters

ITC News

Training

Staff Activities

[Home](#) » [issues](#) » [2012-02](#) » [link-of-month](#)

## Link of the Month



### IT Shared Services

IT Shared Services has been a hot topic in the recent past, at least within UNT IT circles. As this month's *Campus Computing News* [article](#) notes, "a new website for ITSS is in the early stages of being developed and news items are regularly being posted there."

Visit the new site at:

<http://it.untsystem.edu/>



#### Contact Us:

##### University Information Technology

1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

#### Visit Us:

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>



#### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



#### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)

# Benchmarks

A green  
light to  
greatness.

UNT

ABOUT BENCHMARK ONLINE SEARCH ARCHIVE SUBSCRIBE TO BENCHMARKS ONLINE

## Columns, February 2012

Network Connection

Link of the Month

**Helpdesk FYI**

RSS Matters

ITC News

Training

Staff Activities

[Home](#) » [issues](#) » [2012-02](#) » [helpdesk-fyi](#)

## Helpdesk FYI

By [Jonathan "Mac" Edwards](#), UIT Helpdesk Manager \*

### UNT wireless network connection settings for Windows 7

The UNT wireless network has been available for some time. While Mac users have been able to easily connect, Windows users have had a much more difficult time. The UNT network offers two main benefits over Eaglenet. First, the UNT network has increased security providing encryption. Second, it avoids going through a log-in portal to access the wireless network.

The instructions outlined below have been tested for Windows 7; we hope to test them out on Vista and XP soon.

1. Download [EAP-GTC-x86](#) for 32-bit Windows, or [EAP-GTC-x64](#) for 64-bit Windows  
\* [How do I tell if I am running Windows 32 bit or 64 bit?](#)
2. Open and Run the installation
3. Restart computer
4. Click Start > Control Panel > Network and Sharing Center > Manage wireless networks
5. Click Add > Manually create a network profile

Settings are as follows:

Network name: *UNT*

Security Type: *WPA2-Enterprise*

Encryption type: *AES*

Security Key: leave blank

Check "Start this connection automatically" then click Next

#### Enter information for the wireless network you want to add

Network name:

Security type:

Encryption type:

Security Key:   Hide characters

Start this connection automatically

Connect even if the network is not broadcasting

Warning: If you select this option, your computer's privacy might be at risk.

6. Click **Change connection settings**

Connection tab settings:

Check "Connect automatically when this network is in range"

Remove all other check marks

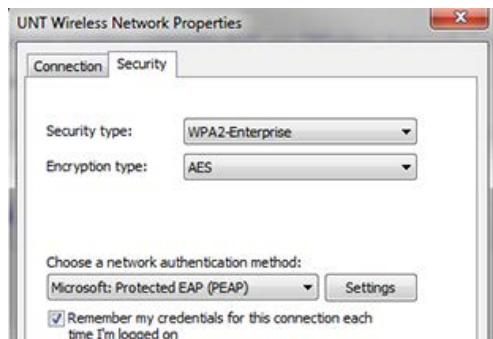
Security tab settings:

Security type: *WPA2-Enterprise*

Encryption type: *AES*

Choose a network authentication method: *Microsoft: Protected EAP (PEAP)*

Check "Remember my credentials for this connection each time I'm logged on"



7. Click **Settings**

Check "Validate server certificate"

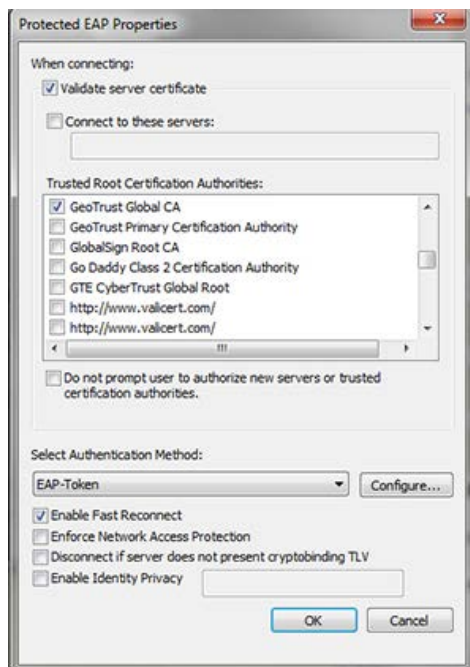
Remove check from "Connect to these servers:"

Trusted Root Certification Authorities:

Check "GeoTrust Global CA" only

Select Authentication Method: *EAP-Token*

Click **OK**



8. Click **Advanced settings**

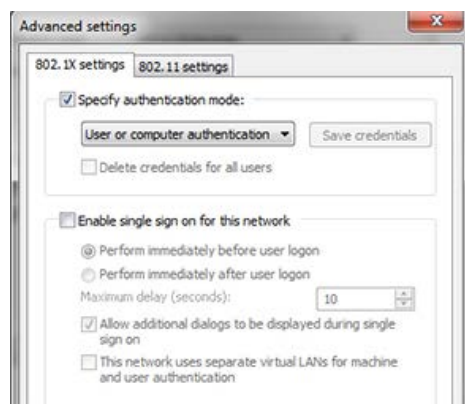
802.1X tab settings:

Check "Specify authentication mode:" *User or computer authentication*

Remove all other check marks

802.11 settings tab:

Remove all check marks



9. Click **OK**, then click **OK** again and restart the computer

10. UNT Wireless should connect automatically after restart. When prompted, enter your euid and password, and leave domain blank.

\*Instructions provided by April Cavins, ITSS DataComm.

This article can also be found online at: [http://remedy4.ars.unt.edu:8080/rkm/viewdoc.jsp?doc=395&sid=19380&type=Published&terms=quick\\_searchTerms&user=Self%20Help](http://remedy4.ars.unt.edu:8080/rkm/viewdoc.jsp?doc=395&sid=19380&type=Published&terms=quick_searchTerms&user=Self%20Help)



### Contact Us:

**University Information Technology**  
1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

### Visit Us:

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>



### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)



# Benchmarks

A green  
light to  
greatness.



UNT

ABOUT BENCHMARK ONLINE SEARCH ARCHIVE SUBSCRIBE TO BENCHMARKS ONLINE

## Columns, February 2012

Network Connection

Link of the Month

Helpdesk FYI

**RSS Matters**

ITC News

Training

Staff Activities

[Home](#) » [issues](#) » [2012-02](#) » [rss-matters](#)

## RSS Matters

Research and Statistical Support  
University of North Texas

# How to Calculate Empirically Derived Composite or Indicator Scores

Link to the last RSS article here: [Working with Sage and R](#) -- Ed.

By **Dr. Jon Starkweather**, Research and Statistical Support Consultant

This month's article was motivated by the frequent need to calculate composite scores from multiple variables. Often we have Likert response survey data and want to combine several questions' or items' responses into a composite score; and then use the composite score(s) as a variable of interest in some traditional analysis. For those unfamiliar, Likert response survey questions have response choices such as; strongly disagree, disagree, agree, strongly agree. The response choices are typically considered ordinal; meaning, they represent sequentially ordered categories (e.g. strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4). In this context, we typically refer to the words as *labels* (e.g. "strongly disagree") and the numbers as *values* (e.g. "1"). Occasionally, we are confronted with a client who wants to simply average each participant's response values on several questions to arrive at a composite score for the domain which the questions are believed to be assessing. This is generally a bad idea because, it treats each question as contributing to the composite score equally – which is often not the case when one considers the latent variable structure of what one is attempting to measure or assess.

Essentially, we will be using factor analysis to generate the composite scores. In a very real sense, the best composite scores are factor scores when there is a known, or strongly supported belief in, structure of the data. There are a few ways to go about generating the composite, or factor, scores based on what type of structure you believe the data contains (e.g. single factor, multiple correlated factors, multiple uncorrelated factors, bifactor model, hierarchical factor model, etc.); and how the variables are measured or scaled (e.g., nominal scaled, ordinal or Likert scaled, interval/ratio scaled, etc.).

The general procedure for generating composite / indicator scores includes the following steps: (1) convert, or recode, nominal or ordinal (Likert) responses to numeric responses, (2) apply a factor analysis model which reflects the known structure, or calculated correlation structure, of the variables, (3) save the factor scores and factor loadings, (4) rescale the factor scores using the factor loadings, the weighted mean, and the weighted standard deviation of the original data so that the composite scores reflect (as nearly as possible) the original semantic (i.e., word) meaning of the original data. In this process, the factor loadings serve as weights for the weighted mean and weighted standard deviation calculations. The last step of rescaling the composite scores is necessary because it allows us to retain the meaning of the responses which went into creating the composites. For instance, if we have a composite score of 3.6 and the four questions' responses which were used to create that composite were all 4-point Likert style with the labels and values; strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4, then we can say the 3.6 means that the person associated with that score responded more with strongly agree than they did with agree, disagree, or strongly disagree. The primary benefits of using the rescaled factor scores as composite scores are that they are considered interval/ratio scaled and they reflect more closely a *true score* on the latent construct we were attempting to measure.

## Examples

First, import some example data (the data file used below has been simulated).

```

R Console
File Edit Misc Packages Windows Help
> data.df <- read.table(
+ "http://www.unt.edu/rss/class/Jon/R_EC/Module4/CompositeIndicators_001.txt",
+ header=TRUE, sep=" ", na.strings="NA", dec=".", strip.white=TRUE)
> summary(data.df): nrow(data.df)
   id      city.names  gender  age  education
Min.   : 5  Bolder    :346  Female:879  Min.   : 15.00  Min.   : 2.00
1st Qu.:2538  Burkley   :351  Male  :852  1st Qu.: 30.00  1st Qu.: 7.00
Median :5028  Detroit   :365                    Median : 40.00  Median :10.00
Mean   :5005  El Pasio  :333                    Mean   : 42.82  Mean   :10.08
3rd Qu.:7480  South Beech:336                    3rd Qu.: 53.00  3rd Qu.:13.00
Max.   :10000                                Max.   :104.00  Max.   :21.00

  income
Min.   :27923
1st Qu.:70125
Median :89214
Mean   :88256
3rd Qu.:107016
Max.   :164972

  q1      q2
agree    :415  agree    :426
disagree :425  disagree :429
strongly agree :451  strongly agree :437
strongly disagree:440  strongly disagree:439

  q3      q4      q5
agree    :449  agree    :436  hyperactive :339
disagree :417  disagree :426  lethargic   :341
strongly agree :417  strongly agree :445  more active :359
strongly disagree:448  strongly disagree:424  no difference :365
not very active:347

  q6      q7      q8
hyperactive :375  hyperactive :348  hyperactive :335
lethargic   :346  lethargic   :361  lethargic   :344
more active :324  more active :355  more active :334
no difference :345  no difference :321  no difference :365
not very active:341  not very active:346  not very active:353

  q9      q10     q11
hyperactive :330  agree    :419  agree    :424
lethargic   :356  disagree :428  disagree :433
more active :346  strongly agree :436  strongly agree :437
no difference :352  strongly disagree:448  strongly disagree:437
not very active:347

  q12     q13     q14
agree    :423  agree    :408  agree    :396
disagree :423  disagree :430  disagree :430
strongly agree :442  strongly agree :447  strongly agree :447
strongly disagree:443  strongly disagree:446  strongly disagree:456

[1] 1731
>

```

In this example, we have 3 groups of questions: q1 - q4, q5 - q9, and q10 - q14. The response choices for q1 - q4 and q10 - q14 were the same: 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree. The response choices for q5 - q9 were: 1 = lethargic, 2 = not very active, 3 = no difference, 4 = more active, 5 = hyperactive. In this example, we have three groups of questions; each group measures a particular latent construct (i.e. indirect measurement) and the three latent constructs are mildly correlated to one another. The above statements represent the known (or strongly supported hypothesis of) the data's (factor) structure; in this example a model with three mildly correlated factors.

Consider the situation where you have a set of Likert scaled items which you believe are the result of one continuously scaled latent factor which is not related to any other questions or factors in the analysis, then you would need to recode the ordinal responses as numeric, then simply run a one factor model, collect the factor scores, and rescale the factor scores as composites scores which reflect the original metric. As an example, consider q1, q2, q3, q4 which we believe reflect a single latent construct.

```

R Console
File Edit Misc Packages Windows Help
> subset.1 <- data.df[,7:10]; summary(subset.1)
  q1      q2      q3
agree    :415  agree    :426  agree    :449
disagree :425  disagree :429  disagree :417
strongly agree :451  strongly agree :437  strongly agree :417
strongly disagree:440  strongly disagree:439  strongly disagree:448

  q4
agree    :436
disagree :426
strongly agree :445
strongly disagree:424
> |

```

First, recode the responses into numbers which reflect the ordinality of the original responses (the words). This can be tricky sometimes because R cannot tell if "agree" should be a 1, 2, 3, etc. So, it's best to impose the values on specific labels using a fairly simple function which returns a subset of variables containing the recoded data. Here, extract the four columns of the original data and assign them to an object called 'subset.1', then we submit that object to the recoding function and re-assign the result to that same name (subset.1).

```

R Console
File Edit Misc Packages Windows Help
> recoding.4.point <- function(data){
+ new.data <- data.frame(matrix(rep(0, nrow(data)*ncol(data)), ncol = ncol(data))
+ for (j in 1:ncol(data)){
+   for (i in 1:nrow(data)){
+     if(data[i,j] == "strongly disagree"){new.data[i,j] <- 1}
+     if(data[i,j] == "disagree"){new.data[i,j] <- 2}
+     if(data[i,j] == "agree"){new.data[i,j] <- 3}
+     if(data[i,j] == "strongly agree"){new.data[i,j] <- 4}
+   }
+ }
+ names(new.data) <- names(data)
+ return(new.data)
+ }
>
> head(subset.1)
  q1      q2      q3      q4
1 disagree strongly agree strongly agree disagree
2 strongly agree strongly disagree agree strongly agree
3 strongly agree strongly disagree agree strongly agree
4 disagree strongly disagree agree agree agree
5 strongly agree agree disagree strongly agree
6 disagree disagree strongly agree strongly agree
> subset.1 <- recoding.4.point(subset.1); head(subset.1)
  q1 q2 q3 q4
1 2 4 4 2
2 4 1 3 4
3 4 1 3 4
4 2 1 3 3
5 4 3 2 4
6 2 2 4 4
> |

```

Since we now have a properly re-coded (and numeric) version of the subset/data, we can apply a one-factor model. Of course, factor analysis assumes a linear relationship between each of the variables included in the factor model, so it is suggested that linearity be checked among each pair of variables included.

```

R Console
File Edit Misc Packages Windows Help
> fa.subset.1 <- factanal(x = subset.1, factors = 1, scores = "regression")
> fa.subset.1

Call:
factanal(x = subset.1, factors = 1, scores = "regression")

Uniquenesses:
  q1  q2  q3  q4
0.634 0.634 0.670 0.646

Loadings:
  Factor1
q1 0.605
q2 0.605
q3 0.574
q4 0.595

          Factor1
SS loadings      1.415
Proportion Var  0.354

Test of the hypothesis that 1 factor is sufficient.
The chi square statistic is 5.94 on 2 degrees of freedom.
The p-value is 0.0513
> |

```

Simply use the "\$scores" operator on the factor analysis object to extract the factor scores.

```

R Console
File Edit Misc Packages Windows Help
> subset.1.scores <- as.vector(fa.subset.1$scores)
> summary(subset.1.scores)
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-1.543000 -0.754000 -0.003227  0.000000  0.742600  1.538000
> |

```

You'll notice the factor scores have a mean of zero, so in order for them to have (semantic) meaning, we must convert them back into the scale of the original 1 - 4 responses. To do this, we will need three things; the new factor scores, the raw data, and the factor loadings. The factor loadings augment the meaning of the composite scores by providing insight into how each question contributed to the composite scores. Notice in this example each of the four questions contributed approximately equally to the composite scores (i.e. the loadings are roughly equal). However, if you have loadings which are not (roughly) equal, then you must communicate the loadings (and why they are important) to anyone interpreting or using the composite scores.

```
R Console
File Edit Misc Packages Windows Help
> fal.loadings <- fa.subset.1$loadings[,1]
> fal.loadings
      q1      q2      q3      q4
0.6049592 0.6049515 0.5742426 0.5946235
> |
```

Unfortunately, there is no base level function for calculating the weighted standard deviation (as there is for the weighted mean). Therefore, we create a small function for calculating the weighted standard deviation; needed below during the rescaling of the factor scores. The function takes the vector of values (x) and the weights (w), which are the loadings here, and returns the weighted standard deviation of the vector of values.

```
R Console
File Edit Misc Packages Windows Help
> weighted.sd <- function(x, w){
+   sum.w <- sum(w)
+   sum.w2 <- sum(w^2)
+   mean.w <- sum(x * w) / sum(w)
+   x.sd.w <- sqrt((sum.w / (sum.w^2 - sum.w2)) * sum(w * (x - mean.w)^2))
+   return(x.sd.w)
+ }
> |
```

The rescaling function below simply puts the scores back into the metric of the original questions. Keep in mind, some of the final scores may be slightly below '1' and some slightly above '4'; this is because we modeled the latent 'true scores'. Now, we have one set of scores or one variable, which contains each participant's score on the latent variable (subset.1 = ss1: q1 - q4).

```
R Console
File Edit Misc Packages Windows Help
> re.scale <- function(f.scores, raw.data, loadings){
+   fz.scores <- (f.scores + mean(f.scores))/sd(f.scores)
+   means <- apply(raw.data, 1, weighted.mean, w = loadings)
+   sds <- apply(raw.data, 1, weighted.sd, w = loadings)
+   grand.mean <- mean(means)
+   grand.sd <- mean(sds)
+   final.scores <- ((fz.scores * grand.sd) + grand.mean)
+   return(final.scores)
+ }
> final.scores.ss1 <- re.scale(subset.1.scores, subset.1, fal.loadings)
> summary(final.scores.ss1)
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
 0.9813 1.7590  2.4990  2.5020 3.2340  4.0180
> |
```

We can go ahead and apply this same general procedure to the other two sets of questions (q5 - q9 and q10 - q14). However, because q5 - q9 have a 5 point Likert response format, we need a second recoding function to put those responses into numeric format.

```
R Console
File Edit Misc Packages Windows Help
> recoding.5.point <- function(data){
+   new.data <- data.frame(matrix(rep(0, nrow(data)*ncol(data)), ncol = ncol(data)))
+   for (j in 1:ncol(data)){
+     for (i in 1:nrow(data)){
+       if(data[i,j] == "lethargic"){new.data[i,j] <- 1}
+       if(data[i,j] == "not very active"){new.data[i,j] <- 2}
+       if(data[i,j] == "no difference"){new.data[i,j] <- 3}
+       if(data[i,j] == "more active"){new.data[i,j] <- 4}
+       if(data[i,j] == "hyperactive"){new.data[i,j] <- 5}
+     }
+   }
+   names(new.data) <- names(data)
+   return(new.data)
+ }
> subset.2 <- recoding.5.point(data.df[,11:15]); summary(subset.2)
      q5      q6      q7      q8      q9
Min. :1.000  Min. :1.000  Min. :1.00  Min. :1.000  Min. :1.000
1st Qu.:2.000  1st Qu.:2.000  1st Qu.:2.00  1st Qu.:2.000  1st Qu.:2.000
Median :3.000  Median :3.000  Median :3.00  Median :3.000  Median :3.000
Mean   :3.005  Mean   :3.024  Mean   :2.99  Mean   :2.979  Mean   :2.969
3rd Qu.:4.000  3rd Qu.:4.000  3rd Qu.:4.00  3rd Qu.:4.000  3rd Qu.:4.000
Max.   :5.000  Max.   :5.000  Max.   :5.00  Max.   :5.000  Max.   :5.000
> subset.3 <- recoding.4.point(data.df[,16:20]); summary(subset.3)
      q10      q11      q12      q13      q14
Min. :1.000  Min. :1.000  Min. :1.000  Min. :1.000  Min. :1.000
1st Qu.:1.000  1st Qu.:1.000  1st Qu.:1.000  1st Qu.:1.000  1st Qu.:1.000
Median :2.000  Median :2.000  Median :2.000  Median :2.000  Median :2.000
Mean   :2.487  Mean   :2.497  Mean   :2.499  Mean   :2.495  Mean   :2.481
3rd Qu.:4.000  3rd Qu.:4.000  3rd Qu.:4.000  3rd Qu.:4.000  3rd Qu.:4.000
Max.   :4.000  Max.   :4.000  Max.   :4.000  Max.   :4.000  Max.   :4.000
> |
```

Next, we create a single function which will take the numeric data and apply the 1 factor model, extract the factor scores, extract the factor loadings, and apply the re-scaling function. This function returns a list object which includes two elements: the rescaled scores and the factor loadings.

```
R Console
File Edit Misc Packages Windows Help
> get.scores.fun <- function(data){
+ fact <- factanal(data, factors = 1, scores = "regression")
+ f.scores <- fact$scores[,1]
+ f.loads <- fact$loadings[,1]
+ rescaled.scores <- re.scale(f.scores, data, f.loads)
+ output.list <- list(rescaled.scores, f.loads)
+ names(output.list) <- c("rescaled.scores", "factor.loadings")
+ return(output.list)
+ }
> |
```

Now, we can apply the above function to subset.2 and subset.3.

```
R Console
File Edit Misc Packages Windows Help
> scores.and.loadings.2 <- get.scores.fun(subset.2)
> scores.and.loadings.2$factor.loadings
      q5      q6      q7      q8      q9
0.6280197 0.6445726 0.6321581 0.6234082 0.6199569
> scores.and.loadings.3 <- get.scores.fun(subset.3)
> scores.and.loadings.3$factor.loadings
      q10      q11      q12      q13      q14
0.6160466 0.6226077 0.6152795 0.6227423 0.5866833
> |
```

Notice the factor loadings from above are all roughly equal. Next, we can extract the rescaled factor scores.

```
R Console
File Edit Misc Packages Windows Help
> final.scores.ss2 <- scores.and.loadings.2$rescaled.scores
> summary(final.scores.ss2)
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
1.007  2.200   3.001  2.994  3.797  4.992
> final.scores.ss3 <- scores.and.loadings.3$rescaled.scores
> summary(final.scores.ss3)
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
0.9663 1.8020  2.4270  2.4920  3.1920  4.0340
> |
```

Now, we can create a data frame which contains just the composite scores for each subset or section of the questionnaire.

```
R Console
File Edit Misc Packages Windows Help
> composite.data <- data.frame(final.scores.ss1, final.scores.ss2, final.scores.ss3)
> names(composite.data) <- c("composite.1", "composite.2", "composite.3")
> summary(composite.data)
  composite.1  composite.2  composite.3
Min. :0.9813  Min. :1.007  Min. :0.9663
1st Qu.:1.7589 1st Qu.:2.200  1st Qu.:1.8023
Median :2.4989 Median :3.001  Median :2.4269
Mean :2.5020 Mean :2.994  Mean :2.4919
3rd Qu.:3.2340 3rd Qu.:3.797  3rd Qu.:3.1919
Max. :4.0184 Max. :4.992  Max. :4.0337
> |
```

Keep in mind, because the three composite score variables are likely to be related, we could have chosen to run a single factor analysis specifying three latent factors (rather than doing three separate factor analyses). However, if a single model was applied, each question would have a loading for each latent factor and those loadings might be substantial. If those cross-loadings were substantial, then they might call into question the factor structure (i.e. question 2 was *supposed* to load on factor 1, but instead loaded most on factor 3....). Furthermore, if we know these three latent variables, represented by the three composite score vectors, supported a global or general factor in a hierarchical fashion; then we would use these three composite score vectors in another one factor model to calculate the composite scores for that general factor.

## Conclusions

Generating composite scores using weighted factor scores is an extremely useful skill to have in one's repertoire. The composite scores can be used as independent or dependent variables in more traditional analysis (e.g. linear regression). However, the example above provides only an introduction to calculating these composite scores. When data does not display the necessary linear relationship required of factor analysis, one might explore the use of

correspondence analysis, optimal scaling, or data transformations. The best defense against violations of assumptions, such as linearity, are a sound design and careful planning which can often ensure the data one collects is capable of providing the information one is seeking.

#### References and Resources

Organization for Economic Co-operation and Development (OECD). (2008). *Handbook on Constructing Composite Indicators*. <http://composite-indicators.jrc.ec.europa.eu/Handbook.htm>

Statistics Canada. (2010). *Survey Methods and Practices*. Ottawa, Canada: Minister of Industry. <http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?lang=eng&catno=12-587-X>



#### Contact Us:

##### University Information Technology

1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

#### Visit Us:

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>



#### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



#### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)

# Benchmarks

A green  
light to  
greatness.



UNT

## Columns, February 2012

Network Connection

Link of the Month

Helpdesk FYI

RSS Matters

**ITC News**

Training

Staff Activities

[Home](#) » [issues](#) » [2012-02](#) » [irc-news](#)

## ITC News

According to the Information Technology Council (ITC) [website](#), "As of June 5th, 2008, the IRC (Information Resources Council) became the ITC (Information Technology Council)." \* \* \*

### Tuesday, November 15, 2011

**Members Present:** Joe Adamo (CITC), Michael Baggett (CVAD), Cengiz Capan (COB), Tim Christian (Chair), Dorothy Flores (CITC AIS), Katy Gallahan, Scott Jackson (for Martin Halbert) (Libraries), Elizabeth Hinkle-Turner (ITC SCG), John Hooper (CIO), William "Bill" Moen, (VPAA), Jon Nelson (MUSIC), Patrick Pluscht, (VPAA CLEAR), Charlotte Russell (ITC SPPG), Chris Stoermer (Staff Council), Ruthanne Thomas (ORED), Kiseol Yang (SMHM) **Members Absent:** Judith Adkinson (COE), Philip Baczewsk (ACUS), Jim Byford (COE), Will Clark (UNT Dallas), Matt Cooper (GSC), Jim Curry (CITC CSS), Renee Drabier (UNT HSC), Yunfei Du (COI), Jane Himmel (ITC IPG), Bruce Hunter (CAS), Abraham John (CITC), Troy Johnson (VPAA Enrollment), Scott Krejci (GALMAC), Ramu Muthiah (ITC CPG), Joey Saxon (Finance), Will Sean, Scott Warren (Faculty Senate) **Guest(s) Present:** Richard Anderson (ITSS), Michael DiPaolo (ITSS)

**Called to Order:** 2:00 p.m. in GAB 210M

The [July 19th, 2011 minutes](#) UNT ITC meeting were approved without correction.

## Shared Services

Michael DiPaolo provided updated information and answered questions regarding Shared Services goals, organization, and Governance structures.

IT Shared Services decisions made by IT governance council makes the highest level IT decisions. It is a 12 member council which includes: Campus CIOs, Provost, CFOs. They will meet in early December 2011. There are roughly 5 subcommittees: Academic and research systems, student management systems, finance systems, communications, productivity and Infrastructure. Final decision makers are the Shared Service Council, three presidents and the chancellor. Michael will send a PowerPoint to ITC members noting these things. The priority will be business, strategy decisions, from which technical decisions will be made. The Governance council's goal is to keep costs down, quality up and performance up, and not to allow services to decline.

There will be a project management team just for ITSS. UNT Dallas will transfer their IT staff to ITSS and ITSS will support UNT Dallas's IT needs 100%. The new organization structure for ITSS goes into effect on January. This is a transparent process.

The System has engaged Towers/Watson to do a job evaluation and pay study for IT Shared Services compared to national and local business. He stated 202 people transferred to IT Shared Services (about 180 from UNT). Titling will be last step.

Service catalog has 174 services listed in it. Each service has been evaluated to determine where services should reside (System or respective campus). Roughly 70 services will remain on respective campuses.

Some additional notes from various members that seemed to resonate with other members as well as provide you with some guidance:

- Data structure is key for re-use and re-purposing for multiple applications, it needs to be sufficiently granular
- Data access control must be considered.
- Look for implementation model policies at other institutions. Case study results would help justify endeavor.
- Considered audiences should include deans, financial aid, advising, IR&E, consumers, deans, research offices, etc.

- How do people who aren't owners get their needs serviced?
- Will is likely the person must aware of "which way the wind is blowing" and know the key pain points such a solution can solve.
- Recommendation should about a "one pager," with potential benefits noted.
- Perhaps doing a survey (a sort of needs analysis). Talk with data owners first.
- Should be policy and getting the work done at the same time.
- Recommendation should provide scope guidance because the closer to the leaf nodes of the university, the higher degree of complexity. Limit scope to administrative data (i.e., we are not considering, say, researcher data, which are attached to rules set forth by various agencies).
- Resulting recommendation may be something we put forward to another council, like the Management Excellence Council.

## Student Digital Communications Sub-Committee

Elizabeth Hinkle-Turner gave a wrap-up report from Student Digital Communications Sub-Committee, and stated the President liked her logo "all green, all the time". Andrew Harris will form a small committee to review fiscal/true cost benefit analysis, choosing a pilot group for "go green".

## Data Governance

The following Charge to Will to establish Data Governance was approved by the Committee:

There is an increasing accountability for our Legislature, System Cabinet, and University Cabinets to provide data-driven dashboards, scorecards, and other information to demonstrate exceptional performance and value.

Undoubtedly, we expect those metric demands to change over time depending on economic, political, geographic, and other environmental factors. The data our institutions use should prove consistent, accurate, timely, and accessible at many levels of UNT for the benefit of our leaders, faculty, staff, and students. To that end, the Director of Decision Support Services is charged to create a UNT-specific recommendation regarding Data Governance. Scope should be limited to administrative data.

## No new business

There were no announcements and no new business discussed.

Meeting adjourned at 3:35 p.m.

---

\*For a list of *IRC Regular and Ex-officio Members* click [here](#). *Tim Christian is currently the chair.*

\*\***DCSMT Minutes can be found [here](#).**



### Contact Us:

#### University Information Technology

1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

### Visit Us:

Sage Hall, Room 338



### Email us:

Have questions on content or technical issues? Please contact us.

[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)



<http://it.unt.edu/benchmarks/>

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)

# Benchmarks

A green  
light to  
greatness.



UNT

ABOUT BENCHMARK ONLINE SEARCH ARCHIVE SUBSCRIBE TO BENCHMARKS ONLINE

## Columns, February 2012

Network Connection

Link of the Month

Helpdesk FYI

RSS Matters

ITC News

**Training**

Staff Activities

[Home](#) » [issues](#) » [2012-02](#) » [short-courses](#)

## Training

By [Claudia Lynch](#), *Benchmarks* *Online* Editor

Instructor-led courses are currently offered only by special request. Please contact an [RSS member](#) or [Claudia Lynch](#) if you are interested in taking such a class or wish to have someone offer a class for your students. **SPSS and SAS courses are now offered *online only***. RSS staff will be still be available for consultation on those topics, however. Another class available online is [Introduction to R](#). Make sure and check out the **RSS Matters** article [Statistical Resources](#) in the November 2011 issue of *Benchmarks Online*.

**Special classes** can always be arranged with the RSS staff. Also, you can **always** contact the RSS staff for one-on-one [consultation](#). Please read the [FAQ](#) before requesting an appointment though.

### Especially for Faculty and Staff Members

In addition to the online statistical courses, which are available to students, faculty and staff, staff and faculty members can take courses offered through the [Human Resources Department](#) (they have a new comprehensive training curriculum), and the [Center for Learning Enhancement, Assessment, and Redesign](#) (CLEAR). Additionally, the [Center for Achievement and Lifelong Learning](#) (CALL) offers a variety of courses, usually for a small fee.

**EIS training** is available and expanding. Please see the article [EIS Training Available Online for New Faculty & Staff](#) in the August issue of *Benchmarks Online* for further information.

### Microsoft E-Learning

Microsoft E-Learning courses are now available for **faculty and staff** via our UNT-Microsoft Campus Agreement. Please contact Claudia Lynch at [lynch@unt.edu](mailto:lynch@unt.edu) for instructions on accessing this training. If you haven't accessed the training since last year you will need to get a new access code. UNT, UNTHSC and UNTSYSTEM e-mail addresses are now able to access Microsoft E-Learning.

### Microsoft Outlook Tutorials and much more

The Enterprise Messaging and Directory Services Group has all sorts of useful information on their [website](#), including tutorials and FAQs. The home page displays a list of their newest tutorials with tutorial topic pages displaying the most accessed pages. You can search the site for whatever you're interested via a Search Box on the left-hand side of the page.

### Central Web Support

Consult Central Web Support for assistance in acquiring "Internet services and support." As described on their [website](#):

CWS provides Internet services and support to UNT faculty, staff and students. Services include allocating and assisting departments, campus organizations and faculty with web space and associated applications. Additionally, CWS assists web developers with databases and associated web applications, troubleshooting problems, support and service.

### CLEAR



CLEAR offers courses especially for Faculty Members. A list of topics and further information can be found [here](#).

"Brown Bag Seminars" are back! Faculty meet for lunch once a month during the Fall and Spring sessions in Chilton 245 from Noon-1 p.m. The purpose of this group is to bring faculty members together to share their experiences with distributed learning. One demonstration will be made at each meeting by a faculty member with experience in distributed learning. More information on these activities can be found at the [CLEAR Website](#).

## Ed2go

Ed2go are courses that are offered, for a fee, to UNT faculty, staff and students as well as the general public. According to the CALL [website](#):

*CALL has partnered up to provide online learning on a variety of topics. From standardized test preparation to database programming to training for libraries and their staff, there's a variety of areas from which to choose in online learning.*

*The online minicourses, provided in conjunction with Ed2go, are standardized 12-lesson modules released over a six week period. (Courses are active for eight weeks to provide some flexibility). Each module features a quiz. Lessons are instructor-led and course participants and instructor communicate through a course discussion board. Lessons can be downloaded and saved. At the end of the course there is a final quiz. A passing grade opens a window that allows students to print out a course completion certificate.*

*All courses are \$89, and UNT faculty, staff and students may receive a \$10 discount.*

For additional information surf over to <http://www.ed2go.com/unt/>

## Information Security Awareness

The UNT Information Security team offers Information Security Awareness [courses](#) to all UNT faculty and staff. Topics to be covered will include workstation security, sensitive data handling, copyright infringement issues, identity theft, email security, and more.

**It is a policy requirement that ALL staff take an information security course at least once a year.**

Please contact [Allan Anderson](#) in CITC Information Security if you have any questions, or would like more information about the online training. **Either attending a live class or going through the online training will count towards your training requirement.** You can also request a customized course to be taught for your department.

## Alternate Forms of Training

Many of the General Access Labs around campus have tutorials installed on their computers.

See <http://www.gal.unt.edu/> for a list of labs and their locations. The Willis Library, for example, has a [list of Tutorials and Software Support](#). The Library Instructional Unit also offers workshops and training, including "tech skills" training. Visit their websites for more information: <http://www.library.unt.edu/library-instruction>

The [Training Website](#) has all sorts of information about alternate forms of training. Computer Based Training (CBT) and Web-based training are some of the alternatives offered, although due to the rising costs of training, shrinking budgets and changing technology, computer-based training at UNT is in a state of transition. For up-to-date information on CBT at UNT, see the CBT [website](#).

## Gartner Research Services

UNT has offered Gartner Core Research Services to **all** UNT faculty, students, and staff since 2006. All you need to do to access the subscription is to **log into the UNT Gartner portal page** at <https://gartner.unt.edu/>. Once you have logged in, you can view upcoming webinars: <http://www.gartner.com/webinars/> and listen to Gartner podcasts here: [http://www.gartner.com/it/products/podcasting/asset\\_137461\\_2616.jsp](http://www.gartner.com/it/products/podcasting/asset_137461_2616.jsp). For more information about Gartner Research Services, see the article [Gartner Core Research Services Available to the UNT Community](#) in the August issue of *Benchmarks Online*.

## State of Texas Department of Information Resources

Another possible source of training for staff and, perhaps, faculty members is the Texas Department of Information Resources. A look at their Education and Training [website](#) reveals some interesting possibilities.

## New Horizons Computer Learning Centers

New Horizons is a DIR vendor, which means that state agencies, like UNT, get special pricing for their services negotiated at the State level (click [here](#) for more information about DIR vendors). [New Horizons](#) offers courses at their own facilities in Dallas and Fort Worth, but will arrange for onsite training as well.



### Contact Us:

#### University Information Technology

1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

### Visit Us:

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>



### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)

# Benchmarks

A green  
light to  
greatness.



UNT

ABOUT BENCHMARK ONLINE SEARCH ARCHIVE SUBSCRIBE TO BENCHMARKS ONLINE

## Columns, February 2012

Network Connection

Link of the Month

Helpdesk FYI

RSS Matters

ITC News

Training

**Staff Activities**

[Home](#) » [issues](#) » [2012-02](#) » [staff-activities](#)

## Staff Activities

### Transitions

#### New Employees:

- **Hongxi Sha**, ACUS/Adaptive Lab consultant (part-time).
- **Vinitha Kulkarni**, returning to Enterprise Messaging and Directory Services Group (part-time).
- **Diana Hayes**, CSS Tech, Classroom Support Services (part-time).
- **Blake Deberry**, CSS Tech, Classroom Support Services (part-time).
- **Richard Velazquez**, CSS Tech, Classroom Support Services (part-time).
- **Ali Siavosh-Haghighi**, HPC System Admin, ACUS.
- **David Lowery**, Fiscal Support Assistant, Departmental IT Support (part-time).
- **Barbara Leon**, ACUS/Adaptive Lab consultant (part-time).
- **Skyler Clark-Fernandez**, CSS Tech, Classroom Support Services (part-time).
- **John Martin**, Desktop Support Services, Student Computer Technician (part-time).

#### No longer working in the Computing and Information Technology Center:

- **Danielle Landy**, ACUS/Adaptive Lab consultant (part-time).
- **Katherine Bynum**, UIT Helpdesk Consultant, (part-time).
- **Eric Shockey**, Telecom Student Employee (part-time).
- **Steve Borga**, Media Tech Manager, Classroom Support Services.
- **Luanne Linke**, IT Manager, EIS Application Infrastructure Management (AIM). **Retired.**
- **Eric Duchemin**, IT Manager, Enterprise Database Administration. **Retired.**
- **Angela Mosley**, IT Specialist, UNT System IT Support Services.
- **Damian Garcia**, CSS Tech, Classroom Support Services (part-time).
- **Scott Hunter**, CSS Tech, Classroom Support Services (part-time).
- **Sadee Morgan**, CSS Tech, Classroom Support Services (part-time).
- **Kellum Smith**, CSS Tech, Classroom Support Services (part-time).

- **Guillermo Pujol**, CSS Tech, Classroom Support Services (part-time).
- **Noah Kindervag**, CSS Tech, Classroom Support Services (part-time).
- **James Holloway**, Desktop Support Services, Student Computer Technician (part-time).
- **Robert Manning**, IT Programmer Analyst, Benefits HR Systems.

## Changes, Awards, Recognition, Publications, etc.

### Service to UNT

Congratulations to **David "Deke" Isaac**, IT Manager, Micro Maintenance/Classroom Support for his **20 years of service** to UNT. He was [recently recognized](#) in *InHouse*.

### InHouse Prize Winner

**Mary Ann Neuroth**, IT programmer analyst, won again! This time in the January 9th *InHouse* [prize giveaway](#).



#### Contact Us:

##### University Information Technology

1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

#### Visit Us:

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>



#### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



#### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)

# Benchmarks

A green  
light to  
greatness.



UNT

[ABOUT BENCHMARK ONLINE](#) [SEARCH ARCHIVE](#) [SUBSCRIBE TO BENCHMARKS ONLINE](#)

## Columns, February 2012

[Network Connection](#)

[Link of the Month](#)

[Helpdesk FYI](#)

[RSS Matters](#)

[ITC News](#)

[Training](#)

[Staff Activities](#)

[Home](#) » [issues](#) » [2012-02](#) » [Blackboard Learn: Email vs. Messages in Your Course](#)

## Blackboard Learn: Email vs. Messages in Your Course

By [Rita Knoblock](#), CLEAR Faculty Help Desk Manager

Did you know there are **two** ways to send mail to your students in Learn? Use **Messages** if you wish to keep all of your correspondence with students inside the course. Use **Email** if you want to send email to students' EagleConnect accounts and receive mail back from them in your Exchange account on Outlook.

Blackboard Learn offers options for both Email and Messages inside your course. If you choose not to use one of these tools or not to make it available to your students, make sure that you adjust this accordingly under Tools Availability in the Customization area of your course. Whichever tool the instructor chooses to use they will want to list the information in the Syllabus for their students.

Below you will find specific information about both tools. Basically Email sends new email alerts, is sent to your Email account outside of Blackboard Learn (Outlook, gmail, etc.) and recipients of each email will not see the email addresses of other recipients. With Messages you cannot receive messages outside your course and you are not notified if you receive a new message. The Messages tool in Blackboard Learn is similar to the Email tool that you may have used in Blackboard Vista.

### Email

1. The Email tool allows you to send email to other people in your course from within Blackboard Learn without launching an external email client, such as Gmail or Yahoo.
2. Emails can be sent to individual users or to groups of users. A copy of this email is sent to the sender by default.
3. Since Instructors are required to keep student content for 1 year, you may wish to create separate folders in your email by course and term (ART 1010.001 Fall 2011). The course name/number will be automatically entered at the beginning of the Subject line in Outlook along with whatever you enter as the subject.
4. Email address is set to whatever customer has set in AMS as their preferred email address (UNT email address by default). This is to address FERPA concerns about sending information to a non-verified email address.

**IMPORTANT!** Blackboard Learn keeps no record of sent or received emails. When you receive or send an email, the email will appear in the Inbox of your external email client. Keep a copy of important messages in case you need them at a later date

### Before You Begin

- Blackboard Learn will NOT recognize files or email addresses with spaces or special characters, such as #, &, %, and \$. In general, use only alphanumeric file names and addresses in Blackboard Learn.
- Do not send email through Blackboard Learn without content in the subject line. Leaving the subject line blank can prevent the message from being delivered.

### Troubleshooting

- Your email address is not visible unless you choose to make it visible to course members. Find this setting in

the page header at: **My Places > Personal Information > Set Privacy Options**. From this page, you can choose the information you want course members to see.

- You can change your external email address used in your course. Change your email address by going to **My Places > Personal Information > Edit Personal Information**. Type your preferred email address and click **Submit**.
- Email clients, such as Gmail or Yahoo, may identify email from Blackboard Learn as junk mail and either automatically delete the email or move it to a junk mail folder. If you have problems, check your user preferences or options for settings regarding the handling of junk email.

## Messages

1. The instructor can choose to enable or disable it in their course.
2. You cannot receive messages outside your course and you are not notified if you receive a new message, so make routine checks for new messages.

**Note:** Your instructor controls which tools are available. If this tool is not available, your instructor may have disabled it.

The Blackboard Learn **Messages** tool provides you with a familiar, email-like environment that you can use for course communication. The Messages tool in Blackboard Learn is similar to the Email tool that you may have used in Blackboard Vista. Accounts are automatically created for each member of the course, and messages are sent and received using that account. This provides additional privacy because external email addresses are not used, so external factors will not affect course communication.

Messages are usually accessed through the tools area of a course. However, your instructor can restrict access or create a link on the Course Menu so that messages are directly accessible.

Feel free to contact the CLEAR Faculty Help Desk if you have any questions. We are open Monday–Thursday 8am–9pm, Friday 8am – 5pm and Saturday 11am – 3pm. You can contact us by phone at 940-369-7394 or by emailing us at [clearhelp@unt.edu](mailto:clearhelp@unt.edu). We are also available for walk-ins at 112C Chilton Hall Monday – Friday if needed.



### Contact Us:

**University Information Technology**  
1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

### Visit Us:

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>



### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)



# Benchmarks

A green  
light to  
greatness.



UNT

ABOUT BENCHMARK ONLINE SEARCH ARCHIVE SUBSCRIBE TO BENCHMARKS ONLINE

## Columns, February 2012

Network Connection

Link of the Month

Helpdesk FYI

RSS Matters

ITC News

Training

Staff Activities

[Home](#) » [Issues](#) » [2012-02](#) » [EDUCAUSE Conference News](#)

## EDUCAUSE Conference News

By [Claudia Lynch](#), *Benchmarks* *Online* Editor

The annual EDUCAUSE West/Southwest Regional Conference is coming up next week. Additionally, the deadline for submitting a proposal for the annual conference, to be held in Denver this year, is February 21.

EDUCAUSE recently send out the following e-mail message with regard to the West/Southwest Regional Conference:

For the first time in 11 years, EDUCAUSE will not be hosting a regional conference in Texas. Because you live closer to Texas than [Portland](#), we know this move might influence your ability to attend. We don't want that.

If participating in person isn't realistic, or if you're looking for excellent professional development without the travel, **attend online**.

The West/Southwest Online Conference is packed with a variety of sessions from the face-to-face event enhanced by significant online-only content. Plus, you'll experience all of the programming in an easy-to-use virtual environment, from the comfort of your own conference room or computer.

### Additional Benefits to Attending Online:

- *Built-in attendee networking*—make vital peer connections
- *Increased team-building opportunity*—invite colleagues to attend with you and schedule a conference room
- *Convenience and accessibility*—get the latest research and trends in our community

Capitalize on some of the best professional development available in higher education IT by attending the West/Southwest Online Conference.

[Explore the Online Program](#) | [Register Now](#)



EDUCAUSE2012  
ANNUAL CONFERENCE

November 6-9  
Denver, Colorado, and Online

Submit a proposal to present a concurrent, poster, or "alternative" session in Denver or online. **Deadline: February 21.** Visit the conference website for more information: <http://www.educause.edu/E2012>



### Contact Us:

**University Information Technology**  
1155 Union Circle #310709  
Denton, TX 76203 USA



### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)

Voice: 940-565-4068

Fax: 940-565-4060

- [UNT Health Science Center](#)

**Visit Us:**

Sage Hall, Room 338

<http://it.unt.edu/benchmarks/>

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)

# Benchmarks

A green light to greatness.



ABOUT BENCHMARK ONLINE SEARCH ARCHIVE SUBSCRIBE TO BENCHMARKS ONLINE

## Columns, February 2012

- Network Connection
- Link of the Month
- Helpdesk FYI
- RSS Matters
- ITC News
- Training
- Staff Activities

[Home](#)

## Today's Cartoon



From "Today's Cartoon by Randy Glasbergen", posted with special permission.  
For many more cartoons, please visit [www.glasbergen.com](http://www.glasbergen.com).



### Contact Us:

**University Information Technology**  
1155 Union Circle #310709  
Denton, TX 76203 USA  
Voice: 940-565-4068  
Fax: 940-565-4060

### Visit Us:

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>



### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)



# Benchmarks

A green light to greatness.



## Columns, February 2012

- Network Connection
- Link of the Month
- Helpdesk FYI
- RSS Matters
- ITC News
- Training
- Staff Activities

[Home](#)

## Benchmarks Issue content



### Contact Us:

**University Information Technology**  
 1155 Union Circle #310709  
 Denton, TX 76203 USA  
 Voice: 940-565-4068  
 Fax: 940-565-4060

### Visit Us:

Sage Hall, Room 338  
<http://it.unt.edu/benchmarks/>



### Email us:

Have questions on content or technical issues? Please contact us.  
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)



### UNT System:

- [UNT Home](#)
- [UNT System](#)
- [UNT Dallas](#)
- [UNT Health Science Center](#)

Site last updated on April 22, 2016

[Disclaimer](#) | [AA/EOE/ADA](#) | [Privacy Statement](#) | [Web Accessibility Policy](#) | [State of Texas Online](#) | [Emergency Preparedness](#)