



# The Basic Facts

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The Basic Facts, College of Basic and Applied Sciences, Middle Tennessee State University, Murfreesboro, TN

## CIM (ETIS) Program Profiled in December 3, 2001, Washington Post Article



The following is a *Washington Post* article published in the December 3, 2001 issue. The author is Associated Press reporter, Marta W. Aldrich. We reprinted it here in its

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**W**e walk on it, drive on it. It spans rivers, holds back dams, serves as the foundation of skyscrapers, shopping centers, and homes.

Yet, since the Roman Empire first introduced a rudimentary form of concrete around 300 B.C., academia has virtually snubbed the oozing, grainy mixture that accounts for about a third of the nation's \$250 billion construction industry.

Now, a growing Tennessee school is the nation's first university to churn out graduates with four-year degrees in, well, concrete.



"We're not about just learning to pour slab," said Austin Cheney, director of the Concrete Industry Management program at Middle Tennessee State University, a 19,000-student school just south of Nashville.

"You never know all there is to know about concrete," said Ward Malisch of the American Concrete Institute, a technical society devoted to building better with concrete.

"It's an exciting material, and the chemistry involved is incredibly complex," he said.

On-the-job training can result in costly mistakes that require removing and replacing huge chunks of concrete -- "a contractor's nightmare," said Malisch, who helped develop MTSU's program.

"Believe me, you'd rather learn it in a classroom than make a mistake on a megaproject that can cost you millions of dollars and set a project back months," he said.

The industry has spent at least \$1 million

viewed historically as low-tech and dirty. In the process, the budding concrete scholars jokingly declare they one day will "kick asphalt" with starting jobs offering \$45,000, a company car and other perks.

"The concrete industry has depth," said Matt Dryden, 30, a junior who left carpentry work to seek a degree in the hard stuff.

"A lot of people think it's just about driving a big truck and placing sidewalks and patios. They don't realize there's all kinds of professional jobs in sales, quality control, production management, managing a project for a concrete contractor -- all sorts of things," he said.

The university program is the brainchild of industry heavyweights who bemoaned the lack of concrete course work in college civil engineering programs. With most concrete classes squeezed out by computer courses, civil engineers today generally graduate from college knowing little about the properties of one of the primary construction materials.

That concerns industry leaders.

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on the MTSU program and it is anxious to recoup its investment. Over the past decade, many young workers have gravitated toward high-tech jobs at a time in which concrete businesses have consolidated and become more competitive, and need professional managers.

"Young people aren't interested anymore in 'old economy' industries like construction or concrete," said Robert Garbini, president of the National Ready Mixed Concrete Association.

"They want to become an investment banker or work in the stock market or the Internet. They don't realize there are huge opportunities for longevity and success in a growth industry like ours," he said.

So what exactly do concrete scholars study for four years?

The foundation is math and science, with a heavy load of business courses. That's solidified by instruction in everything from how to erect precast concrete to what to do when a slab curls or separates.

They learn about hydration -- the chemical process of making concrete by turning cement and water into the glue that holds together aggregates such as sand, gravel or crushed stone -- and admixtures, which are chemicals that modify concrete's properties, such as making it set faster or slower.

They conduct slump tests and strength tests, and the learn industry codes and environmental regulations.

By graduation, they are as adept at using PowerPoint as they are at using a trowel. And, perhaps most of all, they adopt the industry's pet peeve and pledge to teach all who will listen that cement and concrete are *not* the same. Cement is an ingredient used to make concrete.

### The Science of Success

#### Inside this issue:

- CIM Program 1
- Parsons Outstanding Educator 1
- Our B.E.S.T 2



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## Lynn Parsons Named Outstanding Educator

**L**ynn Parsons, DSN, RN, CNA, has been named Outstanding Educator for 2001 by the Tennessee Nursing Association (TNA). The Council on Nursing Education Award for Outstanding Nurse Educator recognizes the accomplishments of nurse educators in Tennessee in honor of Dean Ruth Neil Murry.

Dr. Parsons is a frequent presenter to or-

ganizations within and outside of Tennessee. Her articles have appeared in dozens of online and traditional publications, and she is a regular participant on nursing-related editorial boards.

Her grant activity has experienced tremendous success in generating thousands of dollars in grant monies for various Middle Tennessee medical institutions, including MTSU and Middle Tennessee Medical Cen-

ter. She has presented over 40 papers, several at the national and international levels, and was selected through a rigorous peer review process to become Distinguished Lecturer for Sigma Theta Tau International on nurse delegation decision-making topics.

Dr. Parsons has been very active at both the district and state levels of the Tennessee Nursing Association.



## The Basic B.E.S.T. (Boastful Educators Showing Talents)

All departments are invited to submit items for this column

### Agribusiness/Agriscience

**Harley Foutch** recently attended the 2001 Annual Conference of the American Association of Colleges of Agriculture and Renewable Resources (AASCARR) at California State University, Fresno. Dr. Foutch serves as President of the organization.

**Harley Foutch**, as President of AASCARR, attended the National Association of State Universities and Land-Grant Colleges meeting of University Presidents in Washington, DC in November. He also attended the American Association of State Colleges and Universities at their annual meeting in New Orleans, LA in November.

The Farm Laboratory along with Rutherford County Soil Conservation District hosted the county 4H-FFA Land Judging Contest in September. Teams from several high schools in the area competed with a total of 100 students participating.

The Milk Processing Plant was involved in several activities in October: providing several gallons of chocolate milk for the Dairy Science Club's silent auction at the Dairy Expo; conducting several dairy tours; providing two Cub Scout groups the opportunity to practice milking; and the entire Farm staff was involved in assisting with Farm Day Festival.

Mr. Allen Willmore, a senior Plant and Soil Science major from Manchester, with a minor in Business Administration, has received the Middle Tennessee Golf Course Superintendent's Association Scholarship

### Biology

**Kim Sadler** conducted a WET (Water Education for Teachers) in-service training session for several Campus School faculty. Participants investigated the characteristics and significance of water through a series of inquiry-based learning activities.

**Cindi-Smith Walters and Karen Hargrove** conducted a video-conference which was viewed by classrooms in an eight-county service area. The program explored water use, pollution, and responsible actions through the use of

video clips, hands-on activities, lecture, and discussion. The video-conference was joined by a studio audience of 5th graders from Reeves Rogers Elementary School.

### Computer Science

**Brenda Parker** has been awarded an Eisenhower Professional Development Grant for the 2001-2002 academic year to implement "A Teacher Enhancement Partnership for Maury, Lewis, and Williamson County Middle School Science Teachers." Also she served as Session Chair at the MidSoutheast Association for Computing Machinery (ACM) conference in Gatlinburg in November.

**Judy Hankins and Brenda Parker** co-presented a talk at the MidSoutheast ACM conference in Gatlinburg in November entitled "Teaching Computer Literacy Online." Also they had a research paper accepted for the National Educational Computing Conference (NECC) held in June 2002. The paper, which will be an oral presentation, is entitled "The Joys and Sorrows of Teaching Computer Literacy Online."

**Richard Detmer** presented a talk at the MidSoutheast ACM conference in Gatlinburg in November entitled "The IA-64 Architecture." Also he served as Session Chair.

**Cen Li** was awarded an Instructional Evaluation and Development Grant which will be used to purchase equipment for a course she will be teaching during the summer entitled "Mobile Robotics."

### Chemistry

**Pat Patterson** presented a paper entitled "Making the Connection Between the Classroom and the Real World" at the 21st Lilly Conference on College Teaching in Oxford, OH in November.

**Pat Patterson, Brenda Parker (CSCI), Cindi Smith-Walters (BIOL), and Kim Sadler (BIOL)** were awarded a 2001-2002 Eisenhower Professional Development Grant entitled "A Teacher Enhancement Partnership for Maury, Lewis, and Williamson County Middle School Science Teachers."

### Engineering Technology/Industrial Studies

**David Gore** was elected secretary recently at the meeting of the Manufacturing Engineering Technology Advisory Committee.

**Marvin Runyon**, Chairholder of the Robert E. and Georgianna West Russell Chair in Manufacturing Excellence, spoke in November to students (ETIS/ CSCI) and faculty on the topic "The Use of Technology in Corporate America."

### Mathematical Sciences

**Dovie Kimmins** presented "One University's Experience in Improving Teacher Licensure Exam Pass Rate" at the 100th annual meeting of the School of Science and Mathematics Association Conference in Chicago, IL, in November

### Military Science

The department recently was selected as winner of the Order of the Founders and Patriots of America. This is an Award for Excellence as the outstanding ROTC Unit in the US Army Region II, which means they must excel in both the Military Science Program and in academic endeavors.

The department also was recognized as one of the 15 schools out of 88 within Region II that has exceeded their commissioning mission. They received the Commander's Louisville Slugger Baseball bat as one of the MVP programs.

### Nursing

The following faculty presented at the Sigma Theta Tau International in Indianapolis, IN in November:

**Suzanne Prevost**, lead presenter, for the topic "Sigma Theta Tau International: Your Research Support System." And lead presenter for the topic "Leading Nurses to Evidenced Based Practice."

Dara Grissom, nursing major, won first place in the student posters contest at the TAS/KAS joint meeting held at MTSU recently. Her entry was in the science and math education section.

**Lynn Parsons and Karen Ward**, co-presenters on the topic, "Claim Your Power! Writing Successful Presentation Abstracts."

**Linda Covington** presented a paper entitled "Digital Divide in TBR Schools" at the National Conference of Higher Education in Cincinnati, OH in October.

**Suzanne Prevost** was re-elected to the Sigma Theta Tau International Research Committee at the biennial convention in Indianapolis, IN in October.

**Kate Moore and Suzanne Prevost** attended the Heritage Society Dinner at the Marriott Hotel in Nashville in November. Members of this society are nurse philanthropists.

### Physics

Congressman Bart Gordon announced in November that the US House of Representatives has approved \$340,000 for the new MTSU Observatory Plaza.

The observatory structure will be a naked-eye, self-guided facility for students and the general public to learn about astronomy. A series of 12 uniformly spaced columns will be placed around the outer edge of the circular plaza to give observers pointers that can be used to locate astronomical objects or track the apparent motion of the sun. Learning basic principles of celestial navigation, identifying circumpolar constellations, using constellations to tell time, identifying the first days of the seasons and measuring the Earth's rotation rate are some of the experiments that can be done at the new observatory. Reminiscent in design to Stonehenge, the plaza will surround a building planned for later construction to house the university's main telescope. (Stonehenge is a prehistoric ritual monument located in England and believed to be used as an ancient astronomical tool.)

MTSU officials said the new observatory, to be equipped with state-of-the-art technology, will be located between the Cope building and Peck Hall.