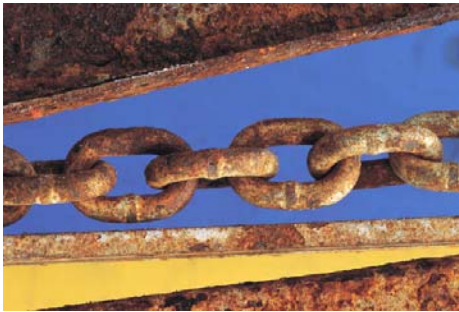


### III. Introduction

The NC EMPT Program hopes to raise awareness of the importance of mathematics, and strives to give future incoming college freshmen an early warning of the mathematics skills necessary for successful placement in college-level mathematics.



**Avoid Rusty  
Math Skills!  
Link Successfully  
to College-Level  
Mathematics!**

By offering this non-threatening advice with opportune timing, that is, while students are still in high school and can maneuver to correct weaknesses, NC EMPT hopes to motivate students to remain strong in mathematics and avoid the expensive pitfalls caused by lack of retention or lack of knowledge of the skills needed for success at the college level. The 2008-2009 placement test questions are based on objectives in the areas of number and operation, algebra, and geometry. The questions were a result of a thorough study of current math placement tests used at NC community colleges and UNC institutions.

#### **Understanding the Basics of an EMPT Program**

Early Mathematics Placement Testing concisely describes a valuable intervention service provided to high school students in programs across the nation. The test allows students to experience a facsimile of an actual mathematics placement exam well before the first semester in college. Thus students, teachers, and parents become more aware of expectations, and therefore more able to react positively in a timely fashion. Student results letters are individualized, offer a wealth of information about mathematical readiness, and provide a “reality check” of a student’s current mastery of mathematics skills.

Some EMPT programs in the United States target high school juniors, in the hope that reinforcement of mathematics skills or corrective action can be taken in the senior year. The North Carolina program offers “practice” placement testing to students close to competing Algebra II and to students in upper-level math courses. This may include sophomores, juniors, or seniors. A new version of the NC EMPT test is created each year, and teachers are encouraged to test students near the end of their Algebra II term and during each subsequent math course. Reinforcement and retention of algebra skills is critical because university mathematics placement tests consist primarily of algebra questions. For a closer

look at the North Carolina EMPT Program, please read the documents found in [Appendix A](#).

Historically, a variety of EMPT programs have been offered, or are currently being considered, in at least twenty-nine states across the nation since the 1980s. Unfortunately, many of these have ceased to exist due to several factors including competition from existing mandated testing and funding problems. Currently, strong programs exist in Ohio, North Carolina, Kentucky, and Wisconsin.

## **Organization of the NC EMPT Program**

East Carolina University (ECU) operated a four-year pilot early math placement testing program from fall 1992 to spring 1996. Sixteen area high schools were involved, and ECU sponsored the pilot. As chair of the ECU Mathematics Department, Dr. Robert Bernhardt directed the program with the help of Dr. Sunday Ajose, and secretarial help was provided by the mathematics department staff. Funding for NC EMPT originated in the NC General Assembly in fall 1996 and was permanently transferred to ECU in fall 1996. A full-time program manager and office assistant were added to the staff. The program reached out to all public and non-public high schools statewide in 1997-1998. Participation numbers increased to an annual high of 47,925 high school students. NC EMPT has been continuously directed by faculty and staff at ECU since the program's inception.

NC EMPT has also been very fortunate to be overseen by a diverse and talented advisory board. Representatives from UNC institutions, NC community colleges, and the NC Department of Public Instruction are included. The members meet annually each October and correspond often via phone, e-mail, and postal mail throughout the year.

The following list includes the members of the 2008-09 Advisory Board:

Appalachian State Univ.	William Bauldry	Dept. of Mathematical Sciences
Dept. of Public Instruction	Everly Broadway	Chief, Middle/Secondary Section, Mathematics Education Division
Dept. of Public Instruction	Carmella Fair	Secondary Mathematics Consultant
Dept. of Public Instruction	Johannah Maynor	Secondary Mathematics Consultant
East Carolina University	Robert Bernhardt	NC EMPT Director and Dept. of Mathematics
East Carolina University	Ellen Hilgoe	NC EMPT Associate Director
Elizabeth City State University	Darnell Johnson	Chair, Dept. of Mathematics & Computer Science
Fayetteville State University	Vinod Arya	Chair, Dept. of Mathematics & Computer Science
NC A&T State University	Guoqing Tang	Interim Chair, Dept. of Mathematics
NC Community College System	Wanda White	Director, Student Development Services
NC Central University	Laura Smith	Dept. of Mathematics & Computer Science
NC State University	Harvey Charlton	Dept. of Mathematics
UNC Asheville	Peter Kendrick	Director, Mathematics Assistance Center

UNC-Chapel Hill	Joseph Plante	Dept. of Mathematics
UNC Charlotte	Mohammad Kazemi	Assoc. Chair, Dept. of Mathematics
UNC Greensboro	Paul Duvall	Department of Mathematics & Statistics
UNC General Administration	Bruce Mallette	Senior Associate Vice President for Academic and Student Affairs
UNC Pembroke	Steve Bourquin	Chair, Dept. of Mathematics & Computer Science
UNC Wilmington	Kenneth Gurganus	Dept. of Mathematics & Statistics
Western Carolina University	Nory Prochaska	Director, Mathematics Tutoring Center, Dept. of Mathematics & Computer Science
Winston-Salem State Univ.	John O. Adeyeye	Chair, Dept. of Mathematics
Wake Technical Community College	Robert Kimball	Chair, Dept. of Mathematics & Physics

## **Outreach Efforts of the NC EMPT Program**

The following groups are contacted via e-mail, postal mail, and in presentations at workshops and conferences:

- North Carolina public and non-public high school mathematics department chairs, mathematics teachers, school counseling department chairs, and principals
- North Carolina public school system superintendents, directors of secondary instruction, and secondary math coordinators
- NC community college presidents, mathematics department chairs, and testing coordinators
- University of North Carolina institution chancellors, mathematics department chairs, and directors of admissions
- North Carolina State Board of Education
- North Carolina Department of Public Instruction
- North Carolina Council of Teachers of Mathematics
- North Carolina Mathematics and Science Education Network Center directors and Pre-College Program coordinators
- North Carolina Mathematics Association of Two-Year Colleges
- National early mathematics placement testing programs and individuals interested in such programs in the following states: Alabama, Florida, Georgia, Hawaii, Iowa, Indiana, Kansas, Kentucky, Maryland, Nevada, Oklahoma, Ohio, Pennsylvania, Tennessee, Washington, Wisconsin
- Achieve, Inc. - American Diploma Project, Washington, D.C.

# A Quick Look at NC EMPT Participation Numbers, 1997-2009

## **Pilot - Spring 1997:**

Total Number of NC High Schools Solicited	80
Total Number of NC High Schools That Signed-Up For Testing	72
Total Number of NC High Schools That Actually Tested	66
Total Number of Students Tested	<b>8,195</b>

## **1997-1998:**

Total Number of NC High Schools Solicited	376
Total Number of NC High Schools That Signed-Up For Testing	226
Total Number of NC High Schools That Actually Tested	205
Total Number of Students Tested	<b>27,456</b>

## **1998-1999:**

Total Number of NC High Schools Solicited	357
Total Number of NC High Schools That Signed-Up For Testing	202
Total Number of NC High Schools That Actually Tested	189
Total Number of Students Tested	<b>27,030</b>

## **1999-2000:**

Total Number of NC High Schools Solicited	637
Pretesting (with the 1998-1999 version of the NC EMPT test):	
Total Number of NC High Schools that Signed-Up	9
Total Number of NC High Schools that Actually Tested	4
Total Number of Students Pretested	364
Placement Testing (with the new 1999-2000 version of the NC EMPT test):	
Total Number of NC High Schools That Signed-Up For Testing	273
Total Number of NC High Schools That Actually Tested	251
Total Number of Students Tested	33,469
Grand Total of Students Tested in 1999-2000	<b>33,833</b>

## **2000-2001:**

Total Number of NC High Schools Solicited	658
Pretesting (with the 1999-2000 version of the NC EMPT test):	
Total Number of NC High Schools that Signed-Up	58
Total Number of NC High Schools that Actually Tested	37
Total Number of Students Pretested	3,259
Placement Testing (with the new 2000-2001 version of the NC EMPT test):	
Total Number of NC High Schools That Signed-Up For Testing	307
Total Number of NC High Schools That Actually Tested	280
Total Number of Students Tested	35,002
Grand Total of Participating High Schools (nonoverlapping)	288
Grand Total of Students Tested in 2000-2001	<b>38,261</b>

### **2001-2002:**

Total Number of NC High Schools Solicited	650
Pretesting (with the 2000-2001 version of the NC EMPT test):	
Total Number of NC High Schools that Signed-Up	67
Total Number of NC High Schools that Actually Tested	52
Total Number of Students Pretested	3,716
Placement Testing (with the new 2001-2002 version of the NC EMPT test):	
Total Number of NC High Schools That Signed-Up For Testing	299
Total Number of NC High Schools That Actually Tested	279
Total Number of Students Tested	37,804
Grand Total of Participating High Schools (nonoverlapping)	287
Grand Total of Students Tested in 2001-2002	<b>41,520</b>

### **2002-2003:**

Total Number of NC High Schools Solicited (this includes 358 public and 290 non-public schools)	648
Pretesting (with the 2001-2002 version of the NC EMPT test):	
Total Number of NC High Schools that Signed-Up	65
Total Number of NC High Schools that Actually Tested	50
Total Number of Students Pretested	4,422
Placement Testing (with the new 2002-2003 version of the NC EMPT test):	
Total Number of NC High Schools That Signed-Up For Testing	311
Total Number of NC High Schools That Actually Tested	278
Total Number of Students Tested	34,399
Grand Total of Participating High Schools (nonoverlapping)	285
Grand Total of Students Tested in 2002-2003	<b>38,821</b>

### **2003-2004:**

Total Number of NC High Schools Solicited (this includes 370 public and 273 non-public schools)	643
Pretesting (with the 2002-2003 version of the NC EMPT test):	
Total Number of NC High Schools that Signed-Up	51
Total Number of NC High Schools that Actually Tested	34
Total Number of Students Pretested	4,084
Placement Testing (with the new 2003-2004 version of the NC EMPT test):	
Total Number of NC High Schools That Signed-Up For Testing	266
Total Number of NC High Schools That Actually Tested	232
Total Number of Students Tested	29,465
Grand Total of Participating High Schools (nonoverlapping)	243
Grand Total of Students Tested in 2003-2004	<b>33,549</b>

**2004-2005:**

Total Number of NC High Schools Solicited (this includes 370 public and 259 non-public schools)	629
Pretesting (with the 2003-2004 version of the NC EMPT test):	
Total Number of NC High Schools that Signed-Up	69
Total Number of NC High Schools that Actually Tested	68
Total Number of Students Pretested	6,339
Placement Testing (with the new 2004-2005 version of the NC EMPT test):	
Total Number of NC High Schools That Signed-Up For Testing	308
Total Number of NC High Schools That Actually Tested	244
Total Number of Students Tested	37,375
Grand Total of Participating High Schools (nonoverlapping)	302
Grand Total of Students Tested in 2004-2005	<b>43,714</b>

**2005-2006:**

Total Number of NC High Schools Solicited (this includes 378 public and 248 non-public schools)	626
Pretesting (with the 2004-2005 version of the NC EMPT test):	
Total Number of NC High Schools that Signed-Up	78
Total Number of NC High Schools that Actually Tested	65
Total Number of Students Pretested	5,919
Placement Testing (with the new 2005-2006 version of the NC EMPT test):	
Total Number of NC High Schools That Signed-Up For Testing	318
Total Number of NC High Schools That Actually Tested	285
Total Number of Students Tested	42,006
Grand Total of Participating High Schools (nonoverlapping)*	303
Grand Total of Students Tested in 2005-2006	<b>47,925</b>

**2006-2007:**

Total Number of NC High Schools Solicited (this includes 502 public and 250 non-public schools)	752
Pretesting (with the 2005-2006 version of the NC EMPT test):	
Total Number of NC High Schools that Signed-Up	87
Total Number of NC High Schools that Actually Tested	73
Total Number of Students Pretested	7,016
Placement Testing (with the new 2006-2007 version of the NC EMPT test):	
Total Number of NC High Schools That Signed-Up For Testing	310
Total Number of NC High Schools That Actually Tested	274
Total Number of Students Tested	39,402
Grand Total of Participating High Schools (nonoverlapping)*	292
Grand Total of Students Tested in 2006-2007	<b>46,418</b>

**2007-2008:**

Total Number of NC High Schools Solicited (this includes 534 public and 246 non-public schools)	780
Pretesting (with the 2006-2007 version of the NC EMPT test):	
Total Number of NC High Schools that Signed-Up	73
Total Number of NC High Schools that Actually Tested	52
Total Number of Students Pretested	5,763
Placement Testing (with the new 2007-2008 version of the NC EMPT test):	
Total Number of NC High Schools That Signed-Up For Testing	330
Total Number of NC High Schools That Actually Tested	280
Total Number of Students Tested	37,300
Grand Total of Participating High Schools (nonoverlapping)*	293
Grand Total of Students Tested in 2007-2008	<b>43,063</b>

**2008-2009:**

Total Number of NC High Schools Solicited (this includes 542 public and 250 non-public schools)	792
Pretesting (with the 2007-2008 version of the NC EMPT test):	
Total Number of NC High Schools that Signed-Up	33
Total Number of NC High Schools that Actually Tested	20
Total Number of Students Pretested	1,794
Placement Testing (with the new 2008-2009 version of the NC EMPT test):	
Total Number of NC High Schools That Signed-Up For Testing	283
Total Number of NC High Schools That Actually Tested	233
Total Number of Students Tested	21,682
Grand Total of Participating High Schools (nonoverlapping)*	243
Grand Total of Students Tested in 2008-2009	<b>23,476</b>

**\* A list of the 243 participating schools in 2008-2009 follows =>**

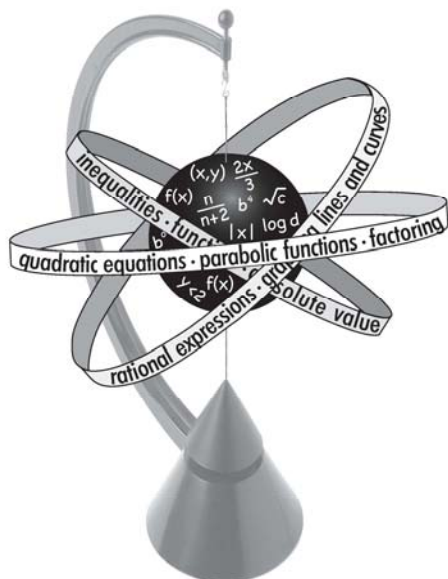
# North Carolina Early Mathematics Placement Testing Program

## Participating High Schools for 2008-2009

A C Reynolds  
A L Brown  
A Performance Learning Center  
Alexander Central  
Anson New Technology  
Antioch Christian Academy  
Ardrey Kell  
Arendell Parrott Academy  
Ashe County  
Asheville  
Bertie  
Bertie STEM  
Bethel Christian Academy  
(Canton)  
Bethel Christian Academy  
(Kinston)  
Bible Baptist Christian School  
Bishop McGuinness Catholic  
Brevard  
Buncombe County Early  
College  
Bunker Hill  
Burns  
Caldwell Academy  
Calvary Baptist Day School  
Cape Fear Christian Academy  
Cardinal Gibbons  
Carolina Christian School

Cary  
Cary Christian School  
Cedar Ridge  
Central Academy @ Lake Park  
Central Davidson  
Chapel Hill  
Charles B Aycock  
Charlotte Catholic  
Clayton  
Clover Garden Charter School  
Clyde A Erwin  
Coastal Christian  
Community Baptist School  
Community Christian School  
Cornerstone Christian School  
Crest  
Crossroads Christian School  
(Henderson)  
Cumberland Evening Academy  
D H Conley  
David W Butler  
Davie County  
Dixon  
Douglas Byrd  
Durham Performance Learning  
Center  
Durham School of the Arts  
E A Laney  
E E Smith  
E T Beddingfield  
Early College of Forsyth  
Early College @ Guilford  
East Bladen  
East Davidson  
East Duplin  
East Forsyth  
East Gaston  
East Mecklenburg  
East Surry  
East Wake School of  
Health Sciences  
East Wilkes  
Eastern Alamance  
Eastern Guilford  
Edgecombe Early College

Enka  
Eugene Ashley  
Falls Rd Baptist Church  
School  
Farmville Central  
Fayetteville Christian School  
Fike  
First Assembly Christian School  
(Concord)  
First Flight  
Forest Hills  
Forsyth Country Day School  
Franklin  
Gaston Christian School  
Gates County Senior  
Goldsboro  
Grace Christian School  
(Raleigh)  
Grace Christian School  
(Sanford)  
Granville Central  
Greene Central  
Greenfield School  
Greensboro Day School  
Grimsley  
Guilford Day School  
Harding University  
Harnett Central  
Harrells Christian Academy  
Havelock  
Hayworth Christian School  
Heide Trask  
Hendersonville Christian  
School  
Hibriten  
Hickory  
High Point Christian Academy  
Highland School of  
Technology  
Highlands School  
Hiwassee Dam  
Hobgood Academy  
Hoke County  
Holly Springs



Independence  
(Charlotte)  
J F Webb  
J F Webb School of Health  
& Life Sciences  
J H Rose  
Jack Britt  
Jacket Academy @ Carver  
Jacksonville  
James Hunt  
Jesse C Carson  
John T Hoggard  
Jones Senior  
Jordan-Matthews  
Kings Mountain  
Kinston  
Lawrence Academy  
Lee Christian School  
(Sanford)  
Leesville Road  
Lejeune  
Lincolnton  
Macon County Early College  
Mallard Creek  
Manteo  
Marie G. Davis Military &  
Global Academy  
Math, Sci, Pre-Eng, & Tech @  
Olympic  
Mattamuskeet  
McDowell  
Metrolina Christian Academy  
Mooresville  
Mount Pleasant  
Mount Tabor  
Nash Central  
Neuse Baptist Christian School  
New Bern  
New Hanover  
New Technology High @  
Garinger  
Norlina Christian School  
North Brunswick  
North Edgecombe  
North Forsyth  
North Henderson  
North Iredell  
North Lenoir  
North Lincoln  
North Mecklenburg  
North Moore  
North Pitt  
North Raleigh Christian  
Academy

Northampton High-East  
Northeastern  
Northern  
(Durham)  
Northern Guilford  
Northern Nash  
Northside  
(Jacksonville)  
Northside  
(Pinetown)  
Northside Christian Academy  
Northwest Cabarrus  
Northwest Guilford  
Northwood Temple Academy  
Oak Ridge Military Academy  
Oakwood School  
Orange  
Page  
Parkland  
Pender  
Person  
Phillip O Berry Academy of  
Technology  
Piedmont  
Porter Ridge  
Providence Grove  
R B Glenn  
Reagan  
Reid Ross Classical School  
Renaissance School @ Olympic  
Resurrection Christian School  
Richlands  
Ridgecroft School  
Riverside  
Roanoke  
Roanoke Rapids  
Rockwell Christian School  
Rocky Mount Preparatory School  
Roxboro Christian Academy  
Rutherford County Early College  
Salem Academy  
School of Biotechnology &  
Health @ Olympic  
School of International Studies @  
Olympic  
School of Math, Sci, & Envir @  
Garinger  
Seventy-First  
Smithfield-Selma  
Smoky Mountain  
South Caldwell  
South Mecklenburg  
South Point  
South Stanly

Southern Alamance  
Southern Guilford  
Southern Nash  
Southlake Christian Academy  
Southside  
Southwestern Randolph  
Spring Creek  
Starmount  
Sun Valley  
Surry Central  
Swansboro  
Tabernacle Christian School  
(Hickory)  
Tarboro  
The Asheville School  
Tri-City Christian School  
Tri-County Christian School  
Trinity  
Tuscola  
Vandalia Christian School  
Victory Christian Center  
School  
Wake Christian Academy  
Wake Forest/Rolesville  
Wakefield  
Walter M Williams  
Warren Early College  
Washington  
Watauga  
Wayne Early Middle College  
Weddington  
West Bladen  
West Caldwell  
West Charlotte  
West Craven  
West Forsyth  
West Johnston  
West Montgomery  
West Stanly  
Westchester Country Day  
School  
Whiteville  
Williamston  
Wilson Christian Academy  
Winston-Salem Prep Academy  
Woodlawn School  
Zebulon B Vance

