ENGINEERING AND TECHNOLOGY

CTAE NEW TEACHERS INSTITUTE

2012
ENGINEERING AND TECHNOLOGY

Career, Technical and Agricultural Education

Engineering and Technology Education Programs

Program Specialist
Mark Crenshaw
404-657-8316 (Office)
404-651-8984 (Fax)
mcrenshaw@doe.k12.ga.us
ENGINEERING AND TECHNOLOGY

Make sure that you have signed in this evening!

- If you're on an Extended Day contract, this meeting is worth 5 points on your Program of Work!
ENGINEERING AND TECHNOLOGY

E&T Enrollment Data 2010 -2011

CTAE Programs – 180 Local School Districts

HS – 31,770 (5th of 10 Clusters behind Business, FACS, T&I, Healthcare) (Unduplicated Count)

- Engineering – 18,420 (44%)
- Energy Systems – 12,773 (31%)
- Engineering Graphics and Design – 8,196 (20%)
- Electronics – 1,248 (3%)
- Manufacturing – 1,104 (2%)
- Other Eng. (417)

MS – 87,206 (2nd of 6 Clusters behind Business)
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House Bill 186

During the 2011 legislative session the Georgia General Assembly passed House Bill 186. House Bill 186 mandates that Georgia will align with the 16 Federal Career Cluster framework. Georgia is adding a 17th Cluster: Energy Systems.

• All courses shall include embedded academic standards.
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Pathways

All current pathways are being aligned to the National Career Cluster models.

A current survey created by the Carl Vinson Institute and the DOE was set out to all local Chamber of Commerce and we are awaiting results that will guide revisions.

Volunteers are needed to work on curriculum revisions

New courses may be added to offer more options for completing a pathway
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Georgia Science, Technology, Engineering and Math Program
Peach State Pathways Conversion to National Career Cluster
Visual Graph Detailing the Scope of Work

STEM Engineering and Technology
- Foundations of Engineering and Technology
- Engineering Concepts
- Engineering Applications
- Research, Design and Project Management
- Engineering Internship

Engineering Graphics and Design
- Introduction to Engineering Drawing & Design
- Survey of Engineering Graphics
- 3-D Modeling and Analysis
- Work-Based Learning

STEM Engineering and Technology (PLTW)
- Foundations of Engineering and Technology (POE)
- Engineering Graphics and Design (IED)
- Robotics and Automated Systems (CIM)
- Research, Design and Project Management (EDD)

Course is Complete
Course Needs Updates (GPS)
Course Needs Development
Work-Based Learning
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Georgia Energy Systems
Peach State Pathways Conversion to National Career Cluster
Visual Graph Detailing the Scope of Work

Energy Systems
- Foundations of Energy and Power Technologies
  (Proposed Course Title Change)
  Current State Funded # (21.45700)
  Proposed # (49.53700)
- Energy and Power: Generation, Transmission, and Distribution
  Proposed # (49.53800)
- Energy and Power Systems Applications
  (Proposed Course Title Change)
  Current State Funded # (21.45100)
  Proposed # (49.53900)
- EOPA
- Energy Systems Internship
  Current State Funded # (21.44800)
  Proposed # (49.54100)
- Work-Based Learning

Electronics
- Foundations of Electronics
- Advanced AC and DC Circuits
- Digital Electronics
- Research Design Project Management
- Electronics Internship
- Work-Based Learning

Green Technology
- TBA
- TBA
- Work-Based Learning

Foundations of Energy and Power Technologies
Energy and Power Systems Applications
Energy Systems Internship
Electronics
Digital Electronics
Research Design Project Management
Electronics Internship
Work-Based Learning
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Georgia Manufacturing
Peach State Pathways Conversion to National Career Cluster

Visual Graph Detailing the Scope of Work

- Health, Safety and Environment Assurance
- Logistics and Inventory Control
- Production Processes and Quality Assurance

Foundations of Manufacturing and Materials Science
Robotics and Automated Systems
Production Enterprise

Logistics and Inventory Control
Foundations of Manufacturing and Materials Science
Robotics and Automated Systems
Research, Design and Project Management

Production Processes and Quality Assurance
Foundations of Manufacturing and Materials Science
Robotics and Automated Systems
Research, Design and Project Management

Work-Based Learning

Course Needs Development
Course Needs Updates (GPS)
Course is Complete
Work-Based Learning
Engineering and Technology

BENEFITS OF REVIEWING OUR CAREER CLUSTER PATHWAYS

Opportunity to seek industry input and expertise
Opportunity to align our courses with the National Assessments and Student Credentialing
Opportunity to embed critical “Soft Skills” in each course
• Opportunity to re-evaluate dual enrollment
• Opportunity to re-evaluate articulation between DOE, TCSG and USG
• Opportunity to evaluate academic credit options for CTAE courses
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CTE: Learning that works for America.

Nationwide, Career Technical Education (CTE) programs are changing, evolving and innovating to better serve the country’s needs. CTE is preparing students of all ages to help drive America’s success and vitality. Further, it is creating an educational environment that integrates core academics with real-world relevance. CTE is leading this change, transforming expectations and making a difference for students, for secondary and postsecondary schools, for businesses and industry—for America.
Career Clusters At-a-Glance

The National Career Clusters™ Framework provides a vital structure for organizing and delivering quality CTE programs through learning and comprehensive programs of study (POS). In total, there are 16 Career Clusters in the National Career Clusters™ Framework, representing more than 79 Career Pathways to help students navigate their way to greater success in college and career.

As an organizing tool for curriculum design and instruction, Career Clusters™ provide the essential knowledge and skills for the 16 Career Clusters™ and their Career Pathways. It also functions as a useful guide in developing programs of study bridging secondary and postsecondary curriculum and for creating individual student plans of study for a complete range of career options. As such, it helps students discover their interests and passions, and empowers them to choose the educational pathway that can lead to success in high school, college and career.

And because the knowledge and skills encompass both secondary and postsecondary education, the Framework informs efforts to strengthen and improve student transition from secondary to postsecondary education. Click here for a list of the 16 Career Clusters™.

Depending on the business and industry environment, states may adopt a Career Cluster™ to reflect their state’s educational objectives, standards, and economic development priorities. Click here for a closer look at the different Career Clusters™ and Pathways and access to related resources for each.
Science, Technology, Engineering & Mathematics

Science, Technology, Engineering & Mathematics

- **Plans of Study**
- **2008 Knowledge & Skills**

NOTE: NASDCTEc has recently supported the creation of the Common Career Technical Core (CCTC), a set of common, program-level standards for CTE that are fewer, higher and clearer. The CCTC is built from the foundational components of the Knowledge and Skills Statements along with recent research and input from education and industry experts. States are expected voluntarily to adopt the CCTC over the course of the next few years. NASDCTEc is working with states during the transition to the CCTC along with providing updates to educators and the general public.
Science, Technology, Engineering & Mathematics

Cell contents in Excel document may be deleted or expanded by clicking on the particular cell you wish to alter.

Cluster Level Plan of Study

PDF Plan of Study | Excel Plan of Study

Engineering and Technology

Engineering and Technology

PDF Plan of Study | PDF Insert Page | Excel Plan of Study | Excel Insert Page

Science and Mathematics

PDF Plan of Study | PDF Insert Page | Excel Plan of Study | Excel Insert Page

- Return to List

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8484 Georgia Avenue, Suite 320, Silver Spring, MD 20910
## Engineering and Technology

### Career Pathway Plan of Study

This Career Pathway Plan of Study (based on the Engineering and Technology Pathway of the Science, Technology, Engineering and Mathematics Career Cluster) is designed as a guide, along with other career planning materials, to help students plan a career path. The courses listed within this plan are only a few recommended coursework and should be individualized to meet each student’s educational and career goals.

*This Plan of Study, used as an educational institution, should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements.

<table>
<thead>
<tr>
<th>Grade</th>
<th>English/Language Arts</th>
<th>Math</th>
<th>Science</th>
<th>Social Studies/Sciences</th>
<th>Other Required Courses</th>
<th>Foundation Electives</th>
<th>Vocational Electives</th>
<th>Occupations Relating to This Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>English/Language Arts</td>
<td>Algebra I or Geometry</td>
<td>Biology</td>
<td>State History/Civics</td>
<td>All plans of study should meet local and state high school graduation requirements.</td>
<td>High School Credits</td>
<td>High School Credits</td>
<td>Mechanical Engineer</td>
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<tr>
<td>10</td>
<td>English Language Arts</td>
<td>Geometry or Algebra II</td>
<td>Chemistry</td>
<td>U.S. History</td>
<td>Certain local student organization activities are also important</td>
<td>High School Credits</td>
<td>High School Credits</td>
<td>Electrical Engineer</td>
</tr>
<tr>
<td>11</td>
<td>English Language Arts</td>
<td>Algebra II or Pre-Calculus</td>
<td>Physics</td>
<td>World History/World Geography</td>
<td>Certain local student organization activities are also important</td>
<td>High School Credits</td>
<td>High School Credits</td>
<td>Manufacturing Engineer</td>
</tr>
<tr>
<td>12</td>
<td>English Language Arts</td>
<td>Pre-Calculus or Calculus</td>
<td>AP Computer Science</td>
<td>AP Computer Science</td>
<td>Certain local student organization activities are also important</td>
<td>High School Credits</td>
<td>High School Credits</td>
<td>Manufacturing Engineer</td>
</tr>
</tbody>
</table>

### College Placement Assessments/Academic/Career Advisement Provided

- Trigonometry
- AP Computer Science
- AP Calculus
- AP Computer Science

### Articulation/Dual Credit

Postsecondary courses may be taken to the secondary level for articulation/dual credit purposes.

### Sample Occupations Relating to This Pathway

- Mechanical Engineer
- Electrical Engineer
- Manufacturing Engineer
- Chemical Engineer
- Aerospace Engineer
- Agricultural Engineer
- Industrial Engineer
- Mechanical Engineer
- Petroleum Engineer
- Transportation Engineer

### Project

Project funded by the U.S. Department of Education (VO51200001)
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Common Core...

- Georgia joined with 46 other states, The District of Columbia (D.C.), and territories to develop a set of core standards for kindergarten through high school in English language arts and mathematics and in grades 6-12 in literacy in science, history/social studies, and technical subjects.
- The Common Core Georgia Performance Standards (CCGPS) provide a consistent framework to prepare students for success in college and/or the 21st century workplace.
- These standards represent a common sense next step from the Georgia Performance Standards (GPS).

http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Curriculum-and-Instruction/Pages/CCGPS.aspx
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CTAE Dual Enrollment...

- 4,815 HS Students dual enrolled in college-level CTAE courses.
- 734 HS Students joint enrolled in college-level CTAE courses.
As of March 30, 2012, Georgia was one of only 10 states to have been granted a waiver from No Child Left Behind (NCLB). The waiver enables the state to hold schools accountable and reward them for the work they do in all subjects and with all students. Georgia will begin using the College and Career Ready Performance Index (CCRPI) next school year for state accountability purposes. The CCRPI has multiple indicators to determine a school’s performance, rather than using a single test score given at one point in time.
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Allows schools to be evaluated on indicators that reach beyond ELA and math scores

Recognizes the similarity between skills needed for careers and skills needed for college

Goes beyond the familiar ‘academic’ indicators and includes explicit career indicators

Contains indicators that stress the importance of career awareness beginning in Kindergarten

Elementary schools are required to teach career awareness lessons aligned with Georgia’s 17 Career Clusters and begin a career portfolio for each student that can move with the student into middle school (Exceeding the Bar indicators, 5 and 6)
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CCRPI Continued...

Middle schools are required to assist students in completing at least 2 career-related interest assessments (inventories) that will inform counselors when assisting students with their Individual Graduation Plans.

Middle school counselors are required to work with each student and their parent(s) to complete the Individual Graduation Plan before the end of grade 8.

High schools will be evaluated on the percent of student completing CTAE pathways, the percent of students receiving Industry-Recognized Credentials, and the percent of students passing End of Pathway Assessments.

High schools will also be evaluated on the percent of students entering the Technical College System of Georgia taking all credit-bearing courses (no remediation).

High schools will also begin to work with students to ensure that by 2016-2017, all students complete a work-based learning experience or a career-related Capstone Project.

For more information on CCRPI visit our website at www.gadoe.org
**FY2013 EOPA TESTING GUIDELINES**

Any eligible student can be tested; no grade level restrictions

Eligible students:
- Have successfully completed three or four designated courses, OR,
- Enrolled in the third or fourth (last) designated course and on track to successfully complete
FY2013 EOPA TESTING GUIDELINES

**EOPA Retest Administration:**

- Not mandated to be offered by LEAs
- Systems that allow retest option will:
  - Offer focused remediation to students before retest
  - Allow a **single** retest opportunity for failed exam
  - Adhere to any stated “waiting periods” established by the testing agency
- Students eligible to utilize retest option:
  - Students who have successfully completed the designated courses
  - Students who failed the EOPA on the first attempt
  - Students who have participated in focused remediation
FY2013 EOPA TESTING GUIDELINES

EOPA Pre-Testing:
- EOPA tests knowledge, skills, and abilities throughout the course of pathway
- Difficult to decide in which course to dispense
- Many exams do not offer pre-test option
- Many systems can’t afford pre-tests

In an effort to ensure equity for all EOPA participants, pre-testing is not recommended.
End-of-Pathway Exams – Skills USA

Program Concentration Area: Engineering and Technology

Career Pathway: Engineering

Exam Blueprint:
- To view the competencies tested in this exam, go to the following link: [http://www.workforcereadysystem.org/media/blueprints/EngineeringTechnology_blueprint.pdf](http://www.workforcereadysystem.org/media/blueprints/EngineeringTechnology_blueprint.pdf)

Exam Cost: $20 standard pricing; $10 per assessment for schools with SkillsUSA chapters up to the total number of members at school site; if more exams are ordered than the number of members in chapter, additional exams will be $20 each. Complete pricing options can be found at [http://www.workforcereadysystem.org/pricing.shtml](http://www.workforcereadysystem.org/pricing.shtml)

Duration of Exam: Not timed – allow 60 minutes

Number of Questions: 50 questions

Exam Cut Score: 65%

Test: Before placing an exam order, the school site will have to select
# Engineering and Technology

**Program Concentration Area:** Engineering & Technology

<table>
<thead>
<tr>
<th>Career Pathway:</th>
<th>Engineering</th>
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<tbody>
<tr>
<td>Students must successfully pass the following three courses in order to sit for the End-of-Pathway Assessment:</td>
<td></td>
</tr>
<tr>
<td>• 21.42500 Foundations of Engineering and Technology</td>
<td></td>
</tr>
<tr>
<td>• 21.47100 Engineering Concepts</td>
<td></td>
</tr>
<tr>
<td>• 21.47200 Engineering Applications</td>
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</table>

<table>
<thead>
<tr>
<th>Credentialing Exam:</th>
<th>Engineering Assessment, Test Code: 7773</th>
</tr>
</thead>
<tbody>
<tr>
<td>• State-Developed Customized Assessment</td>
<td></td>
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<tr>
<td>• Multiple-Choice Only</td>
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</table>

<table>
<thead>
<tr>
<th>Testing Agency:</th>
<th>NOCTI</th>
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</thead>
<tbody>
<tr>
<td><a href="http://www.nocti.org/">http://www.nocti.org/</a></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Exam Blueprint:</th>
<th>To view the competencies tested in this exam, go to the following link:</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.nocti.org/PDFs/7773%20Engineering%20Blueprint.pdf">http://www.nocti.org/PDFs/7773%20Engineering%20Blueprint.pdf</a></td>
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For information regarding state exams developed by NOCTI for Georgia, go to the following link: http://www.nocti.org/StateCustomized-GA.cfm

<table>
<thead>
<tr>
<th>Exam Cost:</th>
<th>$19.00</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Duration of Exam:</th>
<th>Total Administration Time: 90 Minutes</th>
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</thead>
</table>

Multiple Session Administration
This assessment can be administered in:
• One 90- minute session
• Two 45-minute sessions

Session preference is designated at the time orders are placed.

<table>
<thead>
<tr>
<th>Number of Questions:</th>
<th>93 questions</th>
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</thead>
</table>

| Exam Cut Score: | 48.4 |
ENGINEERING AND TECHNOLOGY

End-of-Pathway Exams – NOCTI

NOCTI®
Measuring What Matters!

ASSESSMENTS | PRODUCTS & SERVICES | DEVELOPMENT & REVISION | ONLINE SYSTEMS

Why NOCTI? Getting Started Blueprints Pricing NOCTI News Webinars Teacher's Corner States Contact Us Login

Georgia
The CTAE Resource Network and the Georgia Department of Education have approved use of NOCTI Job Ready and Pathway assessments as part of end-of-pathway testing program. NOCTI is also the assessment provider for three state developed assessments. Click here for a complete list of Georgia Attainment Inventory Assessment Information Sheets.

State Developed Assessments
NOCTI and the Georgia Department of Education worked together to customize three customized assessments. Assessment blueprints are available by clicking the links below.

**Engineering**
- Plant Science/Horticulture
- Teaching as a Profession

Administration Details
- Online administration through QuadNet, NOCTI’s online assessment system
- 90-minute test time
- Administer in one 90-minute session or two 45-minute sessions
- Pre- and post-testing options available
- The performance component of NOCTI Job Ready assessment is not required

Georgia Certificate of Achievement
Students taking a NOCTI Job Ready or Pathway assessment or a state-developed test administered by NOCTI can qualify for a certificate of achievement by meeting or exceeding the established cut score.

Once score reports are processed, site coordinators access the certificates at the Client Services Center. Certificates can be printed directly from the Client Services Center or saved to a local workstation or network. Certificates from third-party organizations (e.g., AMB Institute, American Culinary Federation) will continue to be issued by those organizations.

Contact Information
For additional information on Georgia’s End-of-Pathway Assessment Process, contact Ms. Hamie Hanson, State CTAE Assessment Coordinator, at (404) 657-5276 or via email at mhanson@doe.k12.ga.us.
End-of-Pathway Exam Results – 2012 SY

Awaiting for submission to CTAE Directors....

| GaDOE Contact for Credentialing: | Name: Mamie Hanson  
Tel Number: (404) 657-6279  
Email: mhanson@doe.k12.ga.us |
|---------------------------------|-------------------------------------------------------------|
| GaDOE Contact for Curriculum Area: | Name: Mark Crenshaw  
Tel Number: (404) 657-8316  
Email: mcrenshaw@doe.k12.ga.us |
ENGINEERING AND TECHNOLOGY

Advisory Committees
Program specific
School wide
System wide

NOTE: Teachers typically do not realize the benefits that come with a strong program advisory committee. The program, school, system, and community benefit. Most importantly students benefit.
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Please UPDATE your profile on CTAERN!

- This is the only way we have to COMMUNICATE with you.
- Expect changes this year as we restructure the profile to ALIGN with the pathways!
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Professional Development

CTAERN  [check the site regularly for updates]

In-field professional organizations state, national, and international.

Mentors

Vendors

Local professional development [depending on size of system]

www.ctaern.org
ENGINEERING AND TECHNOLOGY
To begin go under workshop catalog and drop down to (new starting Jan. 2012)

HOTLINE HOURS: The HOTLINE will operate 10 days a week on Tuesday and Thursday from 9 AM to 4 PM. Please know that phone and email will continue to be monitored throughout the week so continue to contact us via email at hot_line@ctae.org or phone at 866-454-2823 (toll free number).

PROGRAM OF WORK UPDATE: The FY12 Program of Work (POW) is now available for completion. If you have questions, see your CTAE System Administrator for more details and information.

IMPORTANT NOTICE ABOUT TWO-WEEK ROSTER LOCK: The two-week roster lock eliminates an individual’s ability to cancel out of a workshop. This automated feature is used to determine if the twelve-participant (12) minimum has been reached for workshop funding purposes by the Network. If you are unable to attend a workshop once the roster is locked, please contact your CTAE Administrator. When the workshop is completed and the roster is validated, an automatic "no-show" email will be generated and sent to both the participant and CTAE administrator. Thank you for being proactive by alerting your local administrator about any unexpected situation that prevents you from cancelling out of a workshop once the roster is locked.

NEW WORKSHOP CATALOG: As of July 1, 2011, workshop offerings appear in the new catalog format only. If you need assistance locating a workshop, feel free to call or email the HOTLINE.

PROFILE UPDATING: To obtain access as a user/employee of a member-system, please contact your CTAE System Administrator who is responsible for adding and deleting staff. Also, individuals are responsible for modifying their own profiles. Please continue to update your existing profiles under the menu item titled "myPages" (sub-menu titled "my profile") to ensure that our data collecting and reporting is accurate.

WORKSHOP POSTINGS: Workshops continue to be posted as they are received and approved. If you are looking for a workshop that is not posted, please email your GaDOE Program Specialist and ask when it will
On this page click on workshop categories and select program area from drop down menu.
Click on the register button and you will be registered for the class.

For more information about the workshop, click on the blue info. tab.
On this page click on workshop details to locate additional information.
Copy of general agenda including starting and ending times – obtained from clicking on agenda on drop down menu.
CTAE Resource Network

Professional Development Workshop - Content

Introduction to Venipuncture

OPTION

MT will conduct this very hands on workshop entitled "Introduction to Venipuncture." The class will cover equipment, collection tubes, and hands on activities dealing with proper technique and procedures for venipuncture and capillary draws. Teachers will acquire techniques (on a manikin arm) and learn important hints for teaching their students this information and proper procedure.

- Understand collection tubes and proper order of draw.
- Identify tubes, tests, and lab departments.
- Understand legal issues can be related to venipuncture.
- Proper techniques and procedures for venipuncture and capillary draw.

ACQUISITION NARRATIVE

In this workshop the participants (teachers) will be able to provide their students with the knowledge and skills necessary to perform venipuncture and capillary draw techniques.

Equipment - Uses knowledge provided to identify appropriate collection tubes and perform "order of draw" correctly when performing venipuncture and capillary draw.

Legal issues - Uses knowledge provided to understand possible legal issues that can occur as a result venipuncture and capillary draw.

Capillary draw - demonstrate appropriate techniques and procedures.

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Copy of content – obtained from clicking on content under drop down menu.
When you click on location under the drop down menu, this is the type of information you will find.

<table>
<thead>
<tr>
<th>College, University, High School, etc. Name (If Applicable)</th>
<th>Contact Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbus Technical College</td>
<td>Phyllis Johnson</td>
</tr>
<tr>
<td>Building Name (If Applicable)</td>
<td>Contact Phone #</td>
</tr>
<tr>
<td>Robert L. Wright Health Science Building</td>
<td>706-323-2070</td>
</tr>
<tr>
<td>Room # (If Applicable)</td>
<td>Contact Email Address</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:pjohnson@doe.k12.ga.us">pjohnson@doe.k12.ga.us</a></td>
</tr>
<tr>
<td>Street Address</td>
<td>Website</td>
</tr>
<tr>
<td>600 River Road (also called GA Hwy 219</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>Parking Instructions</td>
</tr>
<tr>
<td>Columbus</td>
<td>There will be plenty of parking outside of the Robert L. Wright Building (school is closed on Fridays). The directions below are for the main building. The Robert L. Wright Bldg is around the corner.</td>
</tr>
<tr>
<td>State</td>
<td>Parking Website Link</td>
</tr>
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<td></td>
<td>Directions Website Link</td>
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<td>Code</td>
<td><a href="http://www.columbustech.edu/about/location/">http://www.columbustech.edu/about/location/</a></td>
</tr>
<tr>
<td>Zip</td>
<td>Special Instructions</td>
</tr>
<tr>
<td>3004</td>
<td>You should have plenty of time after this class to check in your hotel and check in at registration for our Winter HSTEA/TIEGA conference</td>
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</table>
**Perkins Compliance Review**

- Is your school scheduled for a review this year?

<table>
<thead>
<tr>
<th>School</th>
<th>Date</th>
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<tbody>
<tr>
<td>Appling</td>
<td>10/16/2012</td>
</tr>
<tr>
<td>Barrow</td>
<td>10/29/2012</td>
</tr>
<tr>
<td>Ben Hill</td>
<td>9/25/2012</td>
</tr>
<tr>
<td>Brooks</td>
<td>10/3/2012</td>
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<tr>
<td>Bryan</td>
<td>10/24/2012</td>
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<td>Calhoun City</td>
<td>10/26/2012</td>
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<td>Catoosa</td>
<td>1/5/2012</td>
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<td>Chattooga</td>
<td>11/27/2012</td>
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<tr>
<td>Cherokee</td>
<td>10/2/2012</td>
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<td>Cobb</td>
<td>11/15/2012</td>
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<td>Coffee</td>
<td>9/26/2012</td>
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<td>Colquitt</td>
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<td>Douglas</td>
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<td>Elbert</td>
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<td>Evans</td>
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<td>Fannin</td>
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<td>Forsyth</td>
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<td>Franklin</td>
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<td>Glynn</td>
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<td>Habersham</td>
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<td>Haralson</td>
<td>11/14/2012</td>
</tr>
<tr>
<td>Harris</td>
<td>9/24/2012</td>
</tr>
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<td>Laurens</td>
<td>11/13/2012</td>
</tr>
<tr>
<td>Marion</td>
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</tr>
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<td>Murray</td>
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<tr>
<td>Paulding</td>
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</tr>
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<td>Pierce</td>
<td>10/17/2012</td>
</tr>
<tr>
<td>Polk</td>
<td>11/13/2012</td>
</tr>
<tr>
<td>Rabun</td>
<td>11/16/2012</td>
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<td>Randolph</td>
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<td>Rockdale</td>
<td>11/9/2012</td>
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<td>Stephens</td>
<td>12/6/2012</td>
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<td>Stewart</td>
<td>10/29/2012</td>
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<tr>
<td>Taylor</td>
<td>9/25/2012</td>
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<tr>
<td>Valdosta City</td>
<td>10/4/2012</td>
</tr>
<tr>
<td>Walton</td>
<td>9/27/2012</td>
</tr>
<tr>
<td>Ware</td>
<td>9/27/2012</td>
</tr>
</tbody>
</table>
ENGINEERING AND TECHNOLOGY

Compliance Reviews Focus Areas:

- Daily schedule
- Assistance from DOE and Local Administrators
- School Improvement Model as supported by student achievement data
  - Pathway Completion
  - Industry Certification
- Career Related Education Documentation
- Professional Association and Professional Development
  - Student Organizations
- Safety considerations in Classroom/Lab (work environment)
  - Equipment and Supplies
- Reinforcement/Integration of academics
- Service to Special Populations Students
- Advisory Committees and Industry Collaboration
  - Non-traditional Enrollment
  - Work-Based Learning
  - Career Development
## DAY 1 – Tuesday, September 25th

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 - 9:00</td>
<td>David Turner – CTAE Director, GA Dept. of Education</td>
</tr>
<tr>
<td>9:00 - 9:15</td>
<td>Introductions and instructions</td>
</tr>
<tr>
<td>9:15 - 10:45</td>
<td>*Classroom management – including developing classroom rules, time management, Seating arrangements, keeping students engaged from bell to bell, and safety and lab management - Dr. Janet Burns – GA State University</td>
</tr>
<tr>
<td>10:45 - 11:30</td>
<td>Implementing literacy strategies into the CTAE classroom – Gilda Lyon, Misty Freeman, Tammy Caudell, and Phyllis Johnson – GA Dept. of Education</td>
</tr>
<tr>
<td>11:30 - 12:15</td>
<td>Using technology in the CTAE classroom - Gilda Lyons – GA Dept. of Education</td>
</tr>
<tr>
<td>12:15 - 1:00</td>
<td>Lunch – provided</td>
</tr>
<tr>
<td>1:00 - 1:45</td>
<td>How to maximize the effectiveness of Business and Industry Advisory committees</td>
</tr>
<tr>
<td>1:45 - 4:00</td>
<td>Master teachers and Program Specialist in each program area will work with new teachers on Program specific information and resources</td>
</tr>
<tr>
<td>4:00 - 5:00</td>
<td>New Teacher Institute – (NTI) Presentation by providers (Those who don’t have to attend NTI can spend this time networking with each other)</td>
</tr>
</tbody>
</table>
### CTAE New Teachers Workshop cont.

**DAY 2 – Wednesday, September 26th**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30-9:00</td>
<td>Open Session - GACTE – Matthew Gambill – Executive Director</td>
</tr>
<tr>
<td>9:00-9:45</td>
<td>Professional Standards Commission</td>
</tr>
<tr>
<td>9:45-10:45</td>
<td>How to utilize CTAERN – resources, professional development, POW, etc.</td>
</tr>
<tr>
<td></td>
<td>Skip Brown – GA Dept. of Education</td>
</tr>
<tr>
<td>10:45-11:15</td>
<td>Common Core GPS</td>
</tr>
<tr>
<td>11:15-12:15</td>
<td>Best practices for teaching students with disabilities in the CTAE classroom</td>
</tr>
<tr>
<td>12:15-1:00</td>
<td>Lunch - provided</td>
</tr>
<tr>
<td>1:00-1:45</td>
<td>Effective Assessments – using rubrics, written tests, skills tests, presentations etc. that address various learning styles</td>
</tr>
<tr>
<td>1:45-4:00</td>
<td>Professional Organizations, Foundations etc.</td>
</tr>
</tbody>
</table>

*This workshop is for teachers with 3 years or less experience. (Not to be Confused with NTI or PACTE).*
MICROSOFT IT ACADEMY:
FREE FOR ALL GEORGIA HIGH SCHOOLS!

Provides students with the future ready technology skills needed for success in college and a career

Offered in Business & Computer Science Programs
- Links GPS to Certification
- Goal: Teacher and Student Certification

Extends BEYOND to your pathway
- Software and resources for every pathway and teacher

E-reference: digital access to over 600 technology books

DreamSpark: Top developer and designer software so students can create next-gen apps, games and tools
- Create for Xbox Live, Kinect, and more

Professional Development:
- Online, FREE for all high school teachers

Reach out to your Business & Computer Science teacher to find out MORE!
Georgia Microsoft IT Academy

Attention Georgia Educators:

Exciting things are happening with Georgia high schools and the Microsoft IT Academy program!

The Georgia Department of Education and Microsoft have teamed up to provide Georgia educators with the IT Academy program (ITA), giving you access to comprehensive tools and resources for teaching and learning 21st century technology skills. ITA gives educators ready-to-go solutions to help teachers prepare students for college and careers, and also enhance their own professional development. All IT Academy curriculum maps to industry recognized certifications. And, the IT Academy benefits extend to the entire school. Here is a snapshot of the benefits received through the IT Academy:
STEM GEORGIA WEBSITE

Visit the STEM website at:

http://www.stemgeorgia.org
ENGINEERING AND TECHNOLOGY

STEM

CTAE/STEM will be hosting a large tent during the Georgia National Fair for our 2012 State Georgia STEM Festival. We will be open for STEM activities and excitement from 10:00 am - 8:00 pm on Oct. 10th, 11th, and 12th. If you have schools that would like to exhibit (it's free) and show off their programs, please have them contact me or go to http://stemgeorgia.org/georgia-stem-festival-exhibitor-application/ to register.

We are also hosting another STEM Festival for the Richmond County Schools at Augusta Technical College on Friday, Oct. 26th. If you have schools that want to show off their STEM programs, they can register at http://bit.ly/08Qplz.

Contact: Me or Gilda Lyon, EdD
CTAE Program Specialist-STEM Coordinator
Georgia Department of Education
glyon@doe.k12.ga.us
2012 Georgia Science and Engineering Fair

The Georgia Science and Engineering Fair (GSEF) is one of a number of learning experiences that help young people meet the challenges of the future. It provides a stage from which the junior high and high school students of Georgia can demonstrate their serious contributions to the advancement of society and our way of life.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 1, 2012</td>
<td>Directors’ Meeting at UGA Georgia Center</td>
</tr>
<tr>
<td>February 15, 2013</td>
<td>Last day to complete Regional Fairs</td>
</tr>
<tr>
<td>7 days after your fair</td>
<td>E- or paper list of winners due at GSEF</td>
</tr>
<tr>
<td>7 days after your fair</td>
<td>Finalists’ paper documents due at GSEF</td>
</tr>
<tr>
<td>March 1, 2013</td>
<td>Last day for finalists’ corrections/edits and fees for GSEF qualification and printed program.</td>
</tr>
<tr>
<td>March 21-23, 2013</td>
<td>GSEF in Athens</td>
</tr>
</tbody>
</table>

The registration fee per student is $39. More information about the GSEF can be found at their webpage ([www.georgiacenter.uga.edu/gsef](http://www.georgiacenter.uga.edu/gsef)) or by contacting the GSEF Program Coordinator Mrs. Christine Burgoyne by calling the GSEF phone line (706-542-3554 or 706-542-6473).
ENGINEERING AND TECHNOLOGY

http://www.iteea.org/EdD/ebd.htm
ENGINEERING AND TECHNOLOGY

ENGINEERING AND TECHNOLOGY

While you have your phone out.....

- Visit FACEBOOK and LIKE:
  - GADOE
  - ITEEA
  - GETEA
  - ACTE
  - GACTE

Stay connected!
The UGA Workforce Education program offers a wide range of graduate degrees designed to help CTAE educators to think and address 21st century work preparation. The UGA Workforce Education program has consistently ranked in the top five graduate technical vocational programs in the country by US News & World Report. Through our graduate degrees, students are able to increase and/or update knowledge and skills, maintain certification requirements, pursue professional development or prepare for leadership opportunities.

Our degree options include:

- **Online MED** – 100% online (next cohort starting Spring 2013)
- **MAT** – *Master of Arts for Teaching* – geared to those individuals who need initial certification
- **EdS** – *Specialist in Education* – beyond the masters but without the heavy emphasis on research
- **EdD** – *Doctor of Education* (Athens) – prepares individuals for leadership and other roles in CTAE
- **EdD** – *Doctor of Education* (Online/Hybrid) – practitioner based using a blend of face-to-face & online learning
- **PhD** – *Doctor of Philosophy* (Athens) – career preparation where research & scholarship are central activities

Contact Us for Further Information:

Application deadlines are soon approaching.
Robert Wicklein – Graduate Coordinator, (wickone@uga.edu); (706) 542-4503
Department Website – [www.coe.uga.edu/welsf/](http://www.coe.uga.edu/welsf/)

Scholarly Excellence for the CTAE Educator

## ENGINEERING AND TECHNOLOGY

<table>
<thead>
<tr>
<th>Online MED</th>
<th>MAT</th>
<th>EdS</th>
<th>Hybrid EdD Griffin</th>
<th>EdD</th>
<th>PhD</th>
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</thead>
<tbody>
<tr>
<td>Cohort Based – 20 Closed Enrollment</td>
<td>Open Enrollment</td>
<td>Open Enrollment</td>
<td>Cohort Based – 20 Closed Enrollment</td>
<td>Open Enrollment</td>
<td>Open Enrollment</td>
</tr>
<tr>
<td>36 credit hours – 2 Courses/Term</td>
<td>48 credit hours – 1-3 Courses/Term</td>
<td>36 credit hours – 2 Courses/Term</td>
<td>48 credit hours – 2 Courses/Term</td>
<td>48 credit hours – 1-4 Courses/Term</td>
<td>60 credit hours – 1-4 Courses/Term</td>
</tr>
<tr>
<td>2 yr. Duration</td>
<td>2-4 yr. Duration</td>
<td>2 yr. Duration</td>
<td>3 yr. Duration</td>
<td>3-6 yr. Duration</td>
<td>3-7 yr. Duration</td>
</tr>
<tr>
<td>Prescriptive Curriculum</td>
<td>Prescriptive Curriculum</td>
<td>Semi-Prescriptive Curriculum</td>
<td>Prescriptive Curriculum</td>
<td>Semi-Prescriptive Curriculum</td>
<td>Semi-Prescriptive Curriculum</td>
</tr>
</tbody>
</table>
2012 GETEA Fall Conference
Woodville Tompkins Technical and Career High School

“STEM is like a box of chocolates...”
October 18th-20th, 2012
Starring: Don Morgan - President, Blair Booth - Past President, Tonya Isabell - President Elect, Cory Booth - Vice President, Tim Cone - Secretary, Pamela Brown - Treasurer
ENGINEERING AND TECHNOLOGY

E&T Profession Resources

www.doe.k12.ga.us
www.gatsa.org
www.getea.org
www.gacte.org
www.ctaern.org
www.iteea.org
www.acteonline.org
www.uga.edu/teched/doi
Curt Johnson – Lowndes County Teacher of the Year

As Lowndes County School Superintendent Wes Taylor might put it, Johnson’s a beacon of hope. With all of the changes and challenges happening in public education, Johnson is a light at the end of the tunnel for the possibilities that are available to a child when they have a caring and dedicated teacher.

Pine Grove MS
ENGINEERING AND TECHNOLOGY

Remember....

As teachers in a non-academic field, next to teaching and “turning our kids on” to engineering/manufacturing/energy, etc..., it must be our very next goal to educate and “turn on” the necessary supporters of our program areas!