# SUMMER 2016 STEM EDUCATION

## PROFESSIONAL DEVELOPMENT OPPORTUNITIES

Teaching and Assessing SCCCR Standards for Mathematics with Applications of the Science & Engineering Practices

For K-12 Mathematics and Science Teachers, Curriculum Support Specialists, Coaches and School Administrators

## JUNE 2016 SUMMER INSTITUTES

*(See descriptions and registration details below.)*

*All Sessions will be held Monday – Thursday, 8:30 AM – 3:30 PM*

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Course Title</th>
<th>Dates</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>High School Mathematics With STEM Applications</td>
<td>June 13 - 16, 2016</td>
<td>USC Aiken RPSEC</td>
</tr>
<tr>
<td>Grades 9 - 12</td>
<td></td>
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<tr>
<td>Elementary School</td>
<td>Elementary Mathematics With STEM Applications</td>
<td>June 20 - 23, 2016</td>
<td>USC Aiken RPSEC</td>
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<tr>
<td>Grades K - 2</td>
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## JULY 2016 SUMMER INSTITUTES

*(See description and registration details below.)*

*All Sessions will be held Monday – Thursday, 8:30 AM – 3:30 PM*

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<thead>
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<tbody>
<tr>
<td>Elementary School</td>
<td>Elementary Mathematics With STEM Applications</td>
<td>July 11 - 14, 2016</td>
<td>USC Aiken RPSEC</td>
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<tr>
<td>Grades 3 - 5</td>
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<tr>
<td>Middle School</td>
<td>Middle School Mathematics With STEM Applications</td>
<td>July 25 - 28, 2016</td>
<td>USC Aiken RPSEC</td>
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<td>Grades 6 - 8</td>
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**STEM Focus Areas Include:** Science and Engineering Practices & The Engineering Design Process; *Biomedical Engineering*; *Aeronautics/Aerospace Engineering* – The Mathematics and Science of Flight; Satellites, GPS & Navigation; *Civil Engineering* - Bridges, Structures, Mathematics and Physics in Roller Coaster Design; *Electrical & Mechanical Engineering* - Wind Turbines; Robotics Programming and Data Analysis, PLTW; Modeling & Interactive Technology Simulations and Applications, Handheld & Computer-Based Technology:TI 84 Plus & TI Nspire Graphing Calculator and iPad Applications, Geometer's Sketchpad & Geogebra

REGISTRATION FORMS CAN BE FOUND AT [http://rpsec.usca.edu/](http://rpsec.usca.edu/)
The RPSEC Summer 2016 STEM Education sessions are designed to strengthen understanding of grade-level mathematics and science content, pedagogy, and assessment strategies. Integration of mathematics and science content in teaching STEM topics emphasizes trans-disciplinary connections. Selected unifying contexts will provide links to ELA and Social Studies content while bringing relevance to science and mathematics.

Specific outcomes include:

- Methodologies that enhance teacher content knowledge, teacher empowerment in making real world connections, emphasis on content relevance, and student engagement in STEM education;
- Assurance of rigorous academic integrity of content;
- Innovative focus on STEM education;
- Inquiry learning environment experiences;
- Evidenced-based argumentation in mathematics and science classrooms;
- Effective integration of instructional technology;
- Interactive simulations for teaching mathematics and science content; and
- Resources for effective implementation of STEM education at the classroom and school level.

<table>
<thead>
<tr>
<th>Early Bird Registration Fee:</th>
<th>Regular Registration Fee:</th>
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</thead>
<tbody>
<tr>
<td>Four-Day Institute $440.00</td>
<td>Four-Day Institute - $480.00</td>
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</table>

Early Bird Registration Deadline: Wednesday, June 1, 2016  
Registration Deadline: Two weeks prior to each Institute

REGISTRATION FORMS CAN BE FOUND AT  
http://rpsec.usca.edu/

For more information, please contact:  
Gloria Allen, Coordinator, Professional Learning  
Ruth Patrick Science Education Center  
471 University Pkwy., Aiken, SC 29801  
Phone: 803-641-3592; 803-641-3313;  
Fax: 803-641-3615  Email: gloriaa@usca.edu

Space is limited! Please register early!
SUMMER 2016 STEM EDUCATION
PROFESSIONAL DEVELOPMENT OPPORTUNITIES

Teaching & Assessing SCCCRe Standards for Mathematics
with Applications of the Science and Engineering Practices

Open to K-12 Mathematics and Science Teachers, Coaches
Curriculum Support Specialists & School Administrators
Limited to 60 Participants Per Grade Band: K-2, 3-5, 6-8, 9-12

STEM FORWARD-Building High Impact Talent

Participation Incentives:

- Exemplary Grade-band Content Sessions Focused on Academic Excellence
- Numeracy, Literacy and Instructional Technology Integration
- High-Quality Mathematics, Science and STEM Lessons with Applications
- STEM Presentations by Local, State, and National Presenters and USC Aiken
  Professors and Instructors
- Networking with Mathematics, Science and Other Content Area Educators from
  across South Carolina
- 24 Recertification Credit Hours

Instructional Resources and Focus Areas Include:

- WindTurbine and Kidwind Kit Applications (Elem., Mid., & HS)
- Renewable Energy Sources & Applications in Math and Science (Mid. & HS)
- Mathematics & Science of Flight in Aerospace Engineering (Elem. Mid., & HS)
- Biomedical Engineering Applications (Mid. & High)
- Bridge Design, Structures, Mathematics & Physics of Roller Coasters (Elem. Mid. & HS)
- EV3 & VEX Robotics Coding & Programming Software (Elem. Mid., & HS)
- John A. Van de Walle Teaching Mathematics Developmentally (Elem. & Mid.)
- TI Nspire Graphing Calculator and Teacher Software Applications (Mid. & High)
- Vernier Software and Technology Applications (Mid. & High)
- Modeling & Interactive Technology Simulations and Applications (Elem, Mid. & HS)

Grade Level Institutes
9-12: June 13 - 16
K-2: June 20 - 23
3-5: July 11 - 14
6-8: July 25 - 28
Mon. – Thurs. 8:30 a.m. – 3:30 p.m.
Registration Form Attached.
Early Registration Deadline: June 1
For more information email
gloriaa@usca.edu

A Mathematics and Science STEM Forward Initiative offered through
the Ruth Patrick Science Education Center (RPSEC) located at USC Aiken