

STEM News Chronicle Topics For 2023

“Publishing expands knowledge in your career field and allows you to share knowledge and experience”

SNC Newsletter Due Dates – articles from broad audience of technologists, businesses, educators broadening diversity in science, technology, engineering, education. Limit – 600 words

1) Due February 13, 2023 - Are Gender, Race, and Culturally relevant curriculums in the Future?

Does STEM education require a race/ gender and culturally relevant curriculum? What does it mean to respond and include culture in the curriculum? To what extent have gender and culturally based messages and microaggression in teaching contributed to the lack of equitable representation in STEM career fields by women and Blacks and Brown students? Will future classrooms embrace gender, race, and cultures in curriculums? When students enter college with equal qualifications, are white males rewarded more regularly for their grades in introductory courses designed as predictors of future success, while students from underrepresented populations and women discouraged more? We invite articles that describe what research is letting instructors and administrators become more knowledgeable and equipped to know about the impact of presenting instruction and learning materials?

2) Due April 22, 2023 - Is there a Financial/Business Side of STEAM that needs to be taught?

A student beginning his/her career in a STEM field will at some point feel the urge to move into business. Is the organic embodiment of Business and STEAM the next fusion in education? We are inviting articles that discuss the need to examine and share lessons learned from the Financial/Business Side of STEAM in entrepreneurship studies. How are future Engineers & Technologists that solve problems being inspired and prepared through instruction and training in managing innovation, re-inventing current businesses, supporting a family

business, or starting up new businesses. Entrepreneurship, and how to start a technology-focused business should be nurtured if we are committed to building a vibrant minority tech-business community. Are there business fields that are more accessible and important socially and culturally for minorities? What the various stages of entrepreneurship like idea creation, business creation, and business advancement in emergent STEM practice for emergent professionals? Please provide articles on these issues.

3) Due July 5, 2023 - How are College Admissions practices Over Emphasizing AP courses?

Math educators and advocates have pushed to diversify high school course offerings by providing individualized math instruction so more students acquire some degree of math proficiency. In high School knowing about science and having the ability to memorize are not sufficient to achieve a passing grade. Students must demonstrate ability to reason from concepts and theories and to use them in unfamiliar situations. They will be expected to interpret experimental data they have not worked with before.

Do AP classes carry disproportionate weight in college admissions? Are minority students taught with inadequate curriculum and who do not take calculus and AP math at risk of not being admitted as College Admissions practices act as gatekeepers against students from underserved school systems? If minority students haven't taken any AP classes throughout high school, admissions officers may not have an idea of what type of course load they can manage for success which can place their admission at risk. (ABEN?)

4) Due November 5, 2023 - Is Blockchain and Cybersecurity the Future for Minorities and Women?

How is the growing importance of blockchain and cyber security impacting underserved minority communities and women? The demand for cybersecurity will be significant in the next few years. Currently, many factors drive the growth of the cybersecurity workforce. One of these is the looming increase of cyber threats. The other is a huge cybersecurity skills gap affecting minorities and immigrants. Since a more diverse and inclusive workforce will help better identify risks and vulnerabilities for organizations and federal agencies, how can education and awareness be broadened to enlarge the pool of managers and directors as

well as front line analysts? Blockchain facilitates the process of recording transactions and tracking assets and is ideal for delivering information because it provides immediate, shared and completely transparent information stored on an immutable ledger that can be accessed only by permissioned network members. Do technology challenged communities and groups represent a user population that can benefit from adopting more blockchain practice? Please offer relevant articles on these issues.

White Paper Due Dates – articles by **Subject Matter Experts** (SMEs) and organizations providing in-depth journalistic discussions of high interest to our community of technical professionals, high education administrators, and business executives.

Persons claiming status as SME need to provide bio and publication references in advance of offering articles for acceptance. - Limit – **1200 words**

1) Due February 12, 2023 - The Golden Ring of Sports – Real or Memorex

Pursuit of a career in sports or entertainment in the Latino and African American Communities may have shifted the paradigm away from alternatives like a career in STEM. So, getting students off the court and the field and into the lab takes on a higher priority for parents and educators. For the NBA, in terms of numbers, anyone pursuing a basketball career has roughly a 1 in 3333 percent chance (.03%) of getting all the way to the top of the mountain. According to calculations by the NFL Players Association, the chances that any high school football player makes it to the NFL are about 0.2 percent. How can students and parents avoid the lure of fame and fortune promoted to feed our desire for sports entertainment? We are interested in receiving articles that offer intervention strategies with emphasis on STEM that provide youth and their families decision processes on career paths when athletics and entertainment flood home with messages that a Grammy or Football/Basketball Hall of Fame can be in their child's future.

2) Due May 1, 2023 - Is it Time to Redesign Engineering?

Industry groups and some university administrators are asking the question, should engineering education be redesigned? If more students for various reasons

don't have access to AP courses, is adjusting engineering course curricula an appropriate response? Freshman calculus as a gateway subject that weeds out many students. This subject teaches new thinking processes involving change, but many professionals don't use it in everyday work. Are decades of tradition designating passing calculus as a proxy for determining who may represent high achievement groups the best formula for incoming freshmen?

The ability to produce engineers in greater numbers by reducing the dropout rate in the first two years of study is important goal without compromising graduate quality. We solicit articles both pro and con on this question from academics and the business community.

3) Due August 8, 2023 - Is Digital Entertainment the Best Path to Digital Literacy?

How can we be more effective in moving more students from consumers of entertainment technology to creators of code and programs to achieve authentic economic inclusion? Can demonstrating the importance of technology and math as drivers in entertainment applications (e.g., video games, movie special effects, virtual reality, etc.) be better taught and applied to get young people to apply their entrepreneurial creativity to starting a technology-focused business? As the digital marketplace creates tech career paths in the entertainment industry that Career and Tech education struggles to keep pace with, can K12 become more adaptable as demand for more "digital readiness capability" is needed by the business community? Please offer articles that can help educators collaborate in new ways to better integrate applications for digital learning.

4) Due December 6, 2023 - Bringing Solutions to climate, water, and food challenges with Science.

How is science bringing solutions to climate, water, and food challenges in underdeveloped nations? The world faces a global hunger crisis of unprecedented proportions. Fueled by conflict, climate shocks and COVID-19, the crisis is escalating as the war in Ukraine drives up the costs of food, fuel, and fertilizers. Millions of people are struggling to put food on the table and are being driven closer to starvation in a storm of staggering proportions and most live in Africa, India, and SE Asia. Is science and technology the answer? If science will play an important role, are the drivers that generate research findings for policy

development geographically and culturally diverse? We solicit articles that illustrate how engineering and science are being deployed in areas of the globe in greatest need for feeding their populations, managing water shortages, and increasing crop and livestock production.