# New Courses for LGA 2018/2019

## Advanced Creating Writing

Advanced Creative Writing allows students to gain further appreciation and practice of the written word. While this course continues to expose students to an eclectic array of writing styles, forms and techniques, its primary focus is the development of a creative and contemplative writing practice. Students will delineate various facets of writing (plot, tone, character, voice) and integrate them into their own creative work. Ultimately students will participate in attempting to publish their work including a variety of literary forms, such as poetry, short fiction, creative nonfiction, plays, and screenplays. Advanced creative writing will emphasize editing and revision skills, oral presentations, and communication of the written word through the printed medium. Students will also gain experience with online publishing.

Advanced creative writing is twofold in its purpose in that, while continuing to emphasize the same opportunity to students to develop and hone writing skills necessary in any career path chosen in terms of the writing's clarity when it comes to communication of ideas and the ability to present them in ways that are structurally sound and grammatically accurate, the class also exists to facilitate the creation, revision and publication of writing generated throughout the entire school year. In-class sessions devoted to the sharing and critiquing of students' work offers not only the appropriate forum for the further development of listening and speaking skills when it comes to garnering feedback, but serve the function of providing a platform for the production and processes necessary to publish or compete in writing contests. Students will continue to explore the writing process and the approaches one must consider to elevate the level of prose they consider and deem worthy of publishing standards.

## Introduction to Robotics

This course provides an introduction to robot mechanisms, dynamics, and intelligent controls. Topics include planar and spatial kinematics, and motion planning; mechanism design for manipulators and mobile robots, multi-rigid-body dynamics, 3D graphic simulation; control design, actuators, and sensors; wireless networking, task modeling, product design documentation to industry standards, human-machine interface, and embedded software. Weekly laboratories provide experience with servo drives, real-time control, and embedded software. Through scaffold projects students will design and build working components of robotic systems that are then integrated in a robotic device for the group term project.

Introduction to Robotics is a rigorous and engaging CTE Engineering course with an overarching focus on robotics, transportation, and green energy. Utilizing a combination of traditional and project-based instructional methods, students engage in the extensive iterative engineering design process that begins to prepare them for careers in technology, transportation, and engineering or renewable energy research. In this course, students experience a spiraling curriculum that provides multiple entry points to develop a deep understanding of Engineering Design concepts and skills including the iterative design cycle, technical drawing and 3-D modeling, use of CAD, prototyping, safe use of hand and power tools, material selection, production processes, and career exploration. Last, by encapsulating learning opportunities within the context of green energy, efficiency analysis and transportation, students will be exposed to careers within renewable energy and engineering technology -- a significantly growing industry sector.