**Robotics & Automation**

   Course Syllabus Fall 2021

**Instructor:**

**Mr. Jesse Smith**

Rockdale Career Academy

**Email:** [jessesmith@rockdale.k12.ga.us](mailto:jessesmith@rockdale.k12.ga.us)

**Office Phone:** 770-388-5677 ext. 31130

**Google Voice Phone Number**:

**Office Hours In-Person or Online** [**(Microsoft Teams):**](https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZDkxMjAyZDItMjA3Mi00ZTBhLTlkZmMtNWI2YWE0ODlmNTNk%40thread.v2/0?context=%7b%22Tid%22%3a%22bfd25eb8-3dfc-4e5c-adab-ad073f23ac72%22%2c%22Oid%22%3a%225375d48b-37a5-4470-b31e-ad56bcb9a57e%22%7d)

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| --- | --- |
| **Wednesday:** | 3:05pm to 3:45pm |
| **Thursday:** | 3:05pm to 3:45pm |
| **Friday (Upon Request):** | 3:05pm to 3:45pm |
| **Mr. Smith is available for remediation or enrichment during the above office hours, or by request.** | |

**Course Description:**

Upon completing this course, students will be able to apply their knowledge of computer aided design (CAD), computer numerical control (CNC), robotics, computer assisted manufacturing (CAM), programmable logic controllers, automated guided vehicles (AGV), and computer integrated manufacturing (CIM).

**Course Objectives:**

* Students will explain the history of automated systems and the benefits of those systems to manufacturing in a global society.
* Students will identify and explain the major engineering tasks in organizing automated manufacturing.
* Students will discuss the systems and applications of automation including: AGV, PLC, CNC, CIM, CAD, CAM, and robotics as essential to succeeding globally in a manufacturing market.
* Students will outline the utilization of programmable control devices and data transfer.
* Students will apply the principles of PLC, CIM, CAD, CAM, and robotics in the manufacturing of a product.

**Textbook:**

(2006). *High-Performance Manufacturing, Portable Production Skills*. Woodland Hills, CA: The McGraw-Hill Company, Inc.

**Materials Needed:**

1. **Safety Glasses**
2. 16 GB Flash Drive for School Work
3. Kleenex
4. Hand Sanitizer
5. 1 Ream of White Copy Paper

**Class Behavior Expectations:**

The following are rules/expectations that will be honored by each student in the classroom:

1. Be respectful of yourself, each other, and teachers/staff.
2. Always come prepared to learn.

* Attend class, be on time, complete work to the best of your ability.

1. Be respectful of school and each other’s property.

**Consequences:**

Students who are disrespectful or violate class/lab rules will be subject to the following:

* Step 1 – Verbal Warning
* Step 2 – Loss of Lab Privileges/Alternative Assignment(Book Assignment)
* Step 3 – Parent Phone Call and/or Detention

**Daily Procedures (Daily Routines):**

|  |  |
| --- | --- |
| *Teacher Commitments* | * itsLearning will be updated weekly by teacher. * Parent contact at 4.5-week benchmarks for students with a grade below 75. * If a student is absent for 3 class periods in a row or 5 total class periods, teachers are required to have contact with parents that has been acknowledged. * I will reply to a student or parent email or phone call within two full school days from it being received. |
| *Entering the Classroom/Seating* | * Each student will enter the classroom, sit at their assigned seat, prepare themselves for class, and begin the induction activity posted on the overhead, board, or on itsLearning. * Students will have assigned seats to help with contact tracing throughout the school year. |
| *Induction Activity* | * In their notebooks, students write their responses to the daily warm-up over the previous class period’s concept or that day’s concept. * Students prepare to discuss warm-up with the teacher. |
| *Restroom* | * Students are not allowed to use the restroom during the first 15 minutes of class and the last 15 minutes of class. * Students must ask permission and take the bathroom pass in order to use the restroom. |
| *Distribution/Collection of Materials* | * Lesson plans, including Standards and Learning Targets, will be given to students using the itsLearning Platform on a daily/weekly basis. * itsLearning can be accessed using the Single Sign-On Portal in ClassLink or logging in with their Rockdale County Public Schools login. * Students will receive instruction in-class with support using videos. * Student assignments/homework/projects will be distrusted and assessed using itsLearning. * Student grades will be posted in Infinite Campus and will be updated, at minimum, on a weekly basis. |
| *Late/Make-up Work* | * Zeros should be entered for all missing assignments as they are graded with a note about when make-up work must be submitted so that parents and students are aware. * When student absences are excused, per state regulations, students shall be allowed to make up their work during their absence. * If the final determination is that the absences are unexcused, students will be allowed to make up their work only if a Request for Late Work Submission is completed. Students have a minimum of 5 school days from the original due date to complete the plan on a late work submission request and submit the late work. * All late work submission ends five school days prior to the first exam day. * If you are turning in late/missing work you **MUST EMAIL Mr. Smith** when you turn it in, otherwise it will not be seen and graded. |
| *Cell Phones/Devices* | * Cell phones/devices should not be out during class unless given permission from the teacher. * During testing, cell phones will be placed in a salad bowl in the middle of the room. * Laptops are allowed for notes and while working on projects. |
| *Food/Drink* | * Snacks and drinks are allowed in the classroom area. * Only bottled watered is allowed in the lab area. |
| *Closing* | * Class ends when the bell rings. The teacher will strive to have a summative discussion at the end of each class. |
| *Entering the Classroom/Seating* | * Each student should enter the classroom, find the attendance binder for their class period (see attached document), and sign in. If a student is tardy, they must enter the class with a pass/note. * Once in the classroom, the student will take a seat at their assigned classroom table, not at a computer in the lab area. |
| *Induction Activity* | * In their notebooks, students write their responses to the daily warm-up over the previous class period’s concept or that day’s concept. * Students prepare to discuss warm-up with the teacher. |
| *Restroom* | * Students are not allowed to use the restroom during the first 15 minutes of class and the last 15 minutes of class. * Students must ask permission and take the bathroom pass in order to use the restroom. |
| *Distribution/Collection of Materials* | * Students turn assignments into the drawer labeled with their class period. If assignment will not fit in drawer, the teacher will give specific instructions. * Digital assignments, such as SolidWorks files, will be submitted via a shared Dropbox folder that will be created on the first day of school. * Graded work will be returned to students while students complete the daily warm-up. * Daily handouts and assignments will be located in the distribution center. |
| *Make-up Work* | * Students have three class periods to complete make-up work after missing class. Students should submit make-up work into the drawer corresponding to their class period. * Make-up work is graded after current classroom assignments. |
| *Cell Phones/Devices* | * Cell phones/devices should not be out during class unless given permission from the teacher. * During testing, cell phones will be placed in a salad bowl in the middle of the room. * Laptops are allowed for notes and while working on projects. |
| *Food/Drink* | * Snacks and drinks are allowed in the classroom area. * Only bottled watered is allowed in the lab area. |
| *Closing* | * Class ends when the bell rings. The teacher will strive to have a summative discussion at the end of each class. |

**Laptop and Cell Phone Policy:**

On the white board there will be a color displayed each day:

Red: No cell phones or laptops used during class.

Yellow: You must ask before using the laptop.

Green: Cell phones and laptops are okay to be used during class.

Mr. Smith will shut the student’s computer and will not be allowed to open it back up.

* *If the teacher shuts it, then only the teacher can open it back up.*

Headphones: Are only allowed when students are working on individual work. Students may not wear headphones while completing group work or during lecture.

**Grading System:**

**Course Work** = 80% of Semester Grade

**Progressive Assessments** 65%

Daily Work

Quizzes

Homework

Dress for Success

**Summative Assessments** 35%

Exams

Projects

Performance Evaluations

**Final Exam** = 20% of Semester Grade (Unless Otherwise Changed by County)

**Course Work (80%) + Final Exam (20%) = Semester Final Grade**

**Grading Scale:**

A = 90-100%

B = 80-89%

C = 75-79%

D = 70-74%

F = 70 – Below

**Students With Disabilities:**

Rockdale County Schools, in compliance with the American with Disabilities Act of 1990, will make every reasonable accommodation for students with special learning needs, including hearing impaired and visually impaired students and students with diagnosed learning disabilities, as well as other classifications of disability specified in the Act.

**Student Non-Discrimination Policy:**

The Rockdale County Schools, in compliance Rockdale County Board of Education (“Board”) desires that all students receive the benefit of an adequate education.  With this view in mind, the Board prohibits unlawful discrimination against students because of race, color, national origin, sex, religion, age, or disability, or other protected group status or activity (e.g. opposition to prohibited discrimination or participation in the statutory complaint process) in its programs and activities or employment in its programs or activities.  In keeping with this commitment, the Board will not tolerate harassment, discrimination, or other unlawful treatment of its students.  As set forth herein, the Board designates the following employee of Rockdale County Public Schools (“District”) to handle inquiries regarding the District's non-discrimination policies.

**Signature Page for Mr. Smith: Manufacturing – Robotics & Automation**

**Note to Parent/Guardian:**

Please sign below as verification that you have received, read, and agree to follow the syllabus for Robotics & Automation and that you understand the criteria established for the course. My primary interest is in providing a positive educational experience for your student.

**Student Signature:**

I, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, have read and understand the course syllabus for RCA Robotics & Automation, and I agree to fulfill these duties and responsibilities including the Rockdale Career Academy Rules and Guidelines.

X \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Parent Signature:**

I, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, have read the syllabus and policies and understand what is expected of my child. I will work cooperatively with Mr. Smith to ensure the success of my child in this class.

X \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Parent/Guardian’s Contact Information:**

Parent/Guardian’s Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Preferred Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Preferred Phone Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Parent/Guardian’s Contact Information:**

Parent/Guardian’s Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Preferred Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Preferred Phone Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_