



**IECE**

Intelli Electronic Car Enthusiasts

# RC Car Project

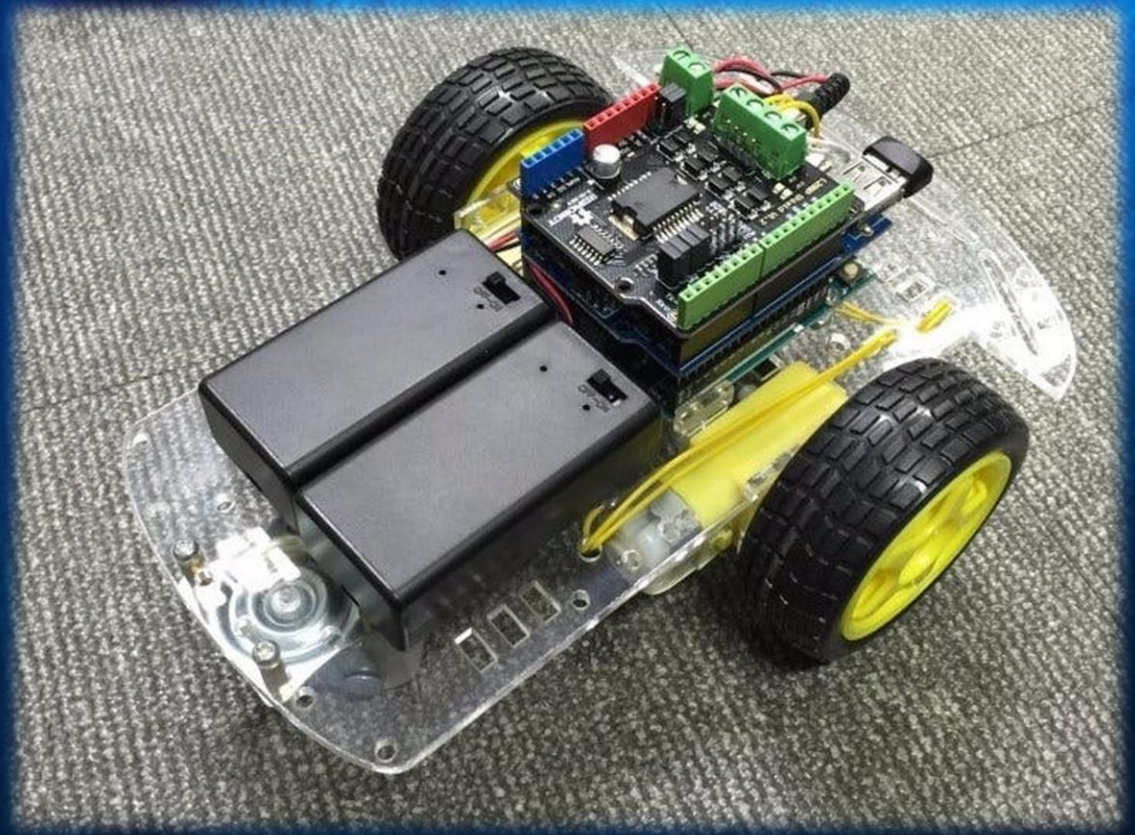
BY: LEONARDO FUSSE (1944695)

PRODUCT DEVELOPMENT I  
247-506-VA (FALL 2021)

DR. MANIJEH KHATAIE

# Presentation Content

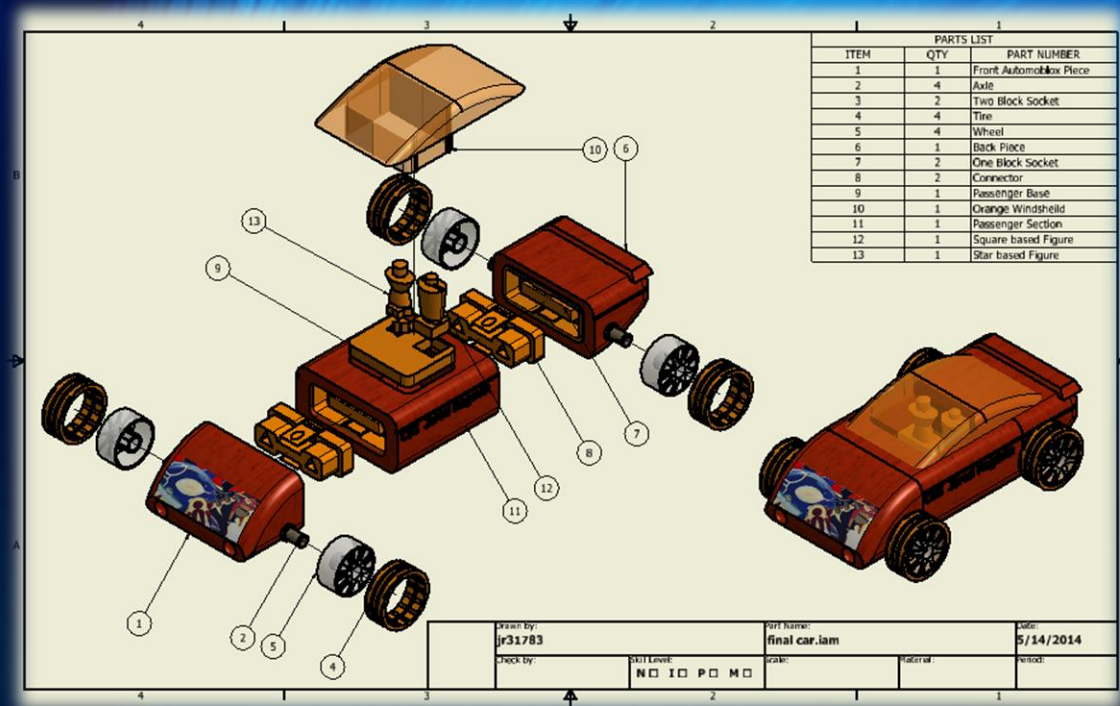
- Project goal.
- Assembling RC car & RC remote.
- RC car schematic & RC remote schematic.
- Programming RC car & RC remote.
- Problems encountered.
- Project demo.



# Project Goal

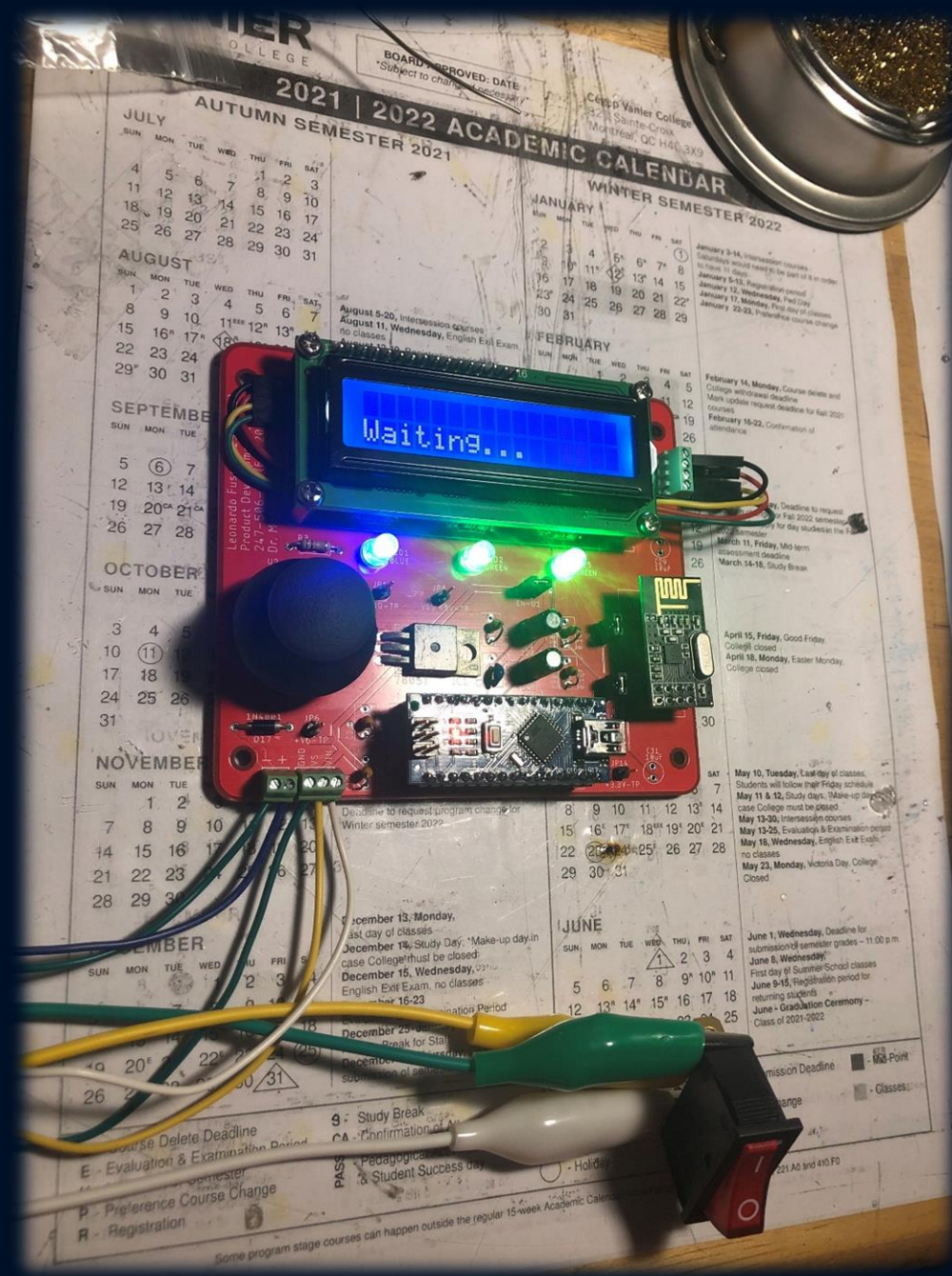
WHY AM I DOING THIS?





# Project Assembly

PUTTING ALL THE PIECES TOGETHER.



COLLEGE

BOARD APPROVED DATE  
Subject to change, occasionally

Centennial College  
1211 Steeles Ave. East  
Markham, ON M3L 3X9

# 2021 | 2022 ACADEMIC CALENDAR

**JULY**

| SUN | MON | TUE | WED | THU | FRI | SAT |
|-----|-----|-----|-----|-----|-----|-----|
|     | 4   | 5   | 6   | 7   | 8   | 9   |
| 11  | 12  | 13  | 14  | 15  | 16  | 17  |
| 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 25  | 26  | 27  | 28  | 29  | 30  | 31  |

**AUGUST**

| SUN | MON | TUE | WED | THU | FRI | SAT |
|-----|-----|-----|-----|-----|-----|-----|
|     | 1   | 2   | 3   | 4   | 5   | 6   |
| 8   | 9   | 10  | 11  | 12  | 13  | 14  |
| 15  | 16  | 17  | 18  | 19  | 20  | 21  |
| 22  | 23  | 24  | 25  | 26  | 27  | 28  |
| 29  | 30  | 31  |     |     |     |     |

**SEPTEMBER**

| SUN | MON | TUE | WED | THU | FRI | SAT |
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| 12  | 13  | 14  | 15  | 16  | 17  | 18  |
| 19  | 20  | 21  | 22  | 23  | 24  | 25  |
| 26  | 27  | 28  | 29  | 30  |     |     |

**OCTOBER**

| SUN | MON | TUE | WED | THU | FRI | SAT |
|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |
| 3   | 4   | 5   | 6   | 7   | 8   | 9   |
| 10  | 11  | 12  | 13  | 14  | 15  | 16  |
| 17  | 18  | 19  | 20  | 21  | 22  | 23  |
| 24  | 25  | 26  | 27  | 28  | 29  | 30  |
| 31  |     |     |     |     |     |     |

**NOVEMBER**

| SUN | MON | TUE | WED | THU | FRI | SAT |
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| 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| 21  | 22  | 23  | 24  | 25  | 26  | 27  |
| 28  | 29  | 30  | 31  |     |     |     |

**DECEMBER**

| SUN | MON | TUE | WED | THU | FRI | SAT |
|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |
| 2   | 3   | 4   | 5   | 6   | 7   | 8   |
| 9   | 10  | 11  | 12  | 13  | 14  | 15  |
| 16  | 17  | 18  | 19  | 20  | 21  | 22  |
| 23  | 24  | 25  | 26  | 27  | 28  | 29  |
| 30  | 31  |     |     |     |     |     |

**WINTER SEMESTER 2022**

**JANUARY**

| SUN | MON | TUE | WED | THU | FRI | SAT |
|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |
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| 23  | 24  | 25  | 26  | 27  | 28  | 29  |
| 30  | 31  |     |     |     |     |     |

**FEBRUARY**

| SUN | MON | TUE | WED | THU | FRI | SAT |
|-----|-----|-----|-----|-----|-----|-----|
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| 15  | 16  | 17  | 18  | 19  | 20  | 21  |
| 22  | 23  | 24  | 25  | 26  | 27  | 28  |
| 29  |     |     |     |     |     |     |

January 5-14, Intercession courses.  
Students must attend to the part of 8 in order to have 11 days.  
January 8-15, Preparation period.  
January 12, Wednesday, Fall Day.  
January 17, Monday, First day of classes.  
January 22-23, Preference course change.

February 14, Monday, Course delete and College withdrawal deadline.  
Mark update request deadline for Fall 2021 courses.  
February 16-22, Confirmation of attendance.

March 11, Friday, Mid-term assessment deadline.  
March 14-15, Study Break.

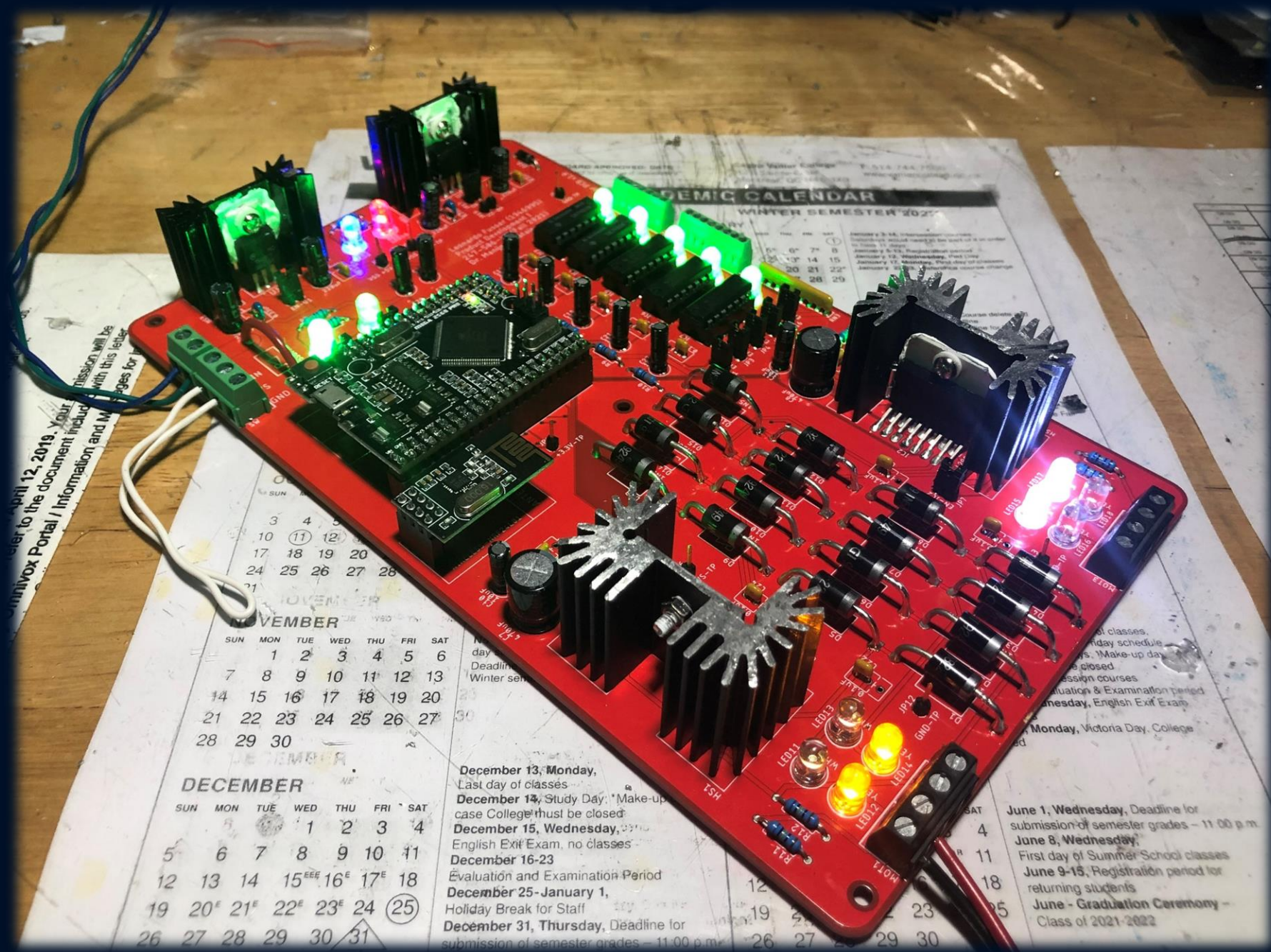
April 15, Friday, Good Friday, College closed.  
April 18, Monday, Easter Monday, College closed.

May 10, Tuesday, Last day of classes. Students will follow their Friday schedule.  
May 11 & 12, Study days. Make-up day case. College must be passed.  
May 13-20, Intercession courses.  
May 13-25, Evaluation & Examination period.  
May 16, Wednesday, English Exit Exam, no classes.  
May 23, Monday, Victoria Day, College Closed.

June 1, Wednesday, Deadline for submission of semester grades - 11:00 p.m.  
June 8, Wednesday, First day of Summer School classes.  
June 9-15, Registration period for returning students.  
June - Graduation Ceremony - Class of 2021-2022.

- 9 - Study Break
  - CA - Confirmation of Attendance
  - CS - Pedagogical Success day
  - P - Preference Course Change
  - R - Registration
- Some program stage courses can happen outside the regular 15-week Academic Calendar.





mission will be  
with this letter  
April 12, 2019. Your  
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Univox Portal / Information and M  
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| SUN | MON | TUE | WED | THU | FRI | SAT |
|-----|-----|-----|-----|-----|-----|-----|
| 10  | 11  | 12  | 13  | 14  | 15  | 16  |
| 17  | 18  | 19  | 20  | 21  | 22  | 23  |
| 24  | 25  | 26  | 27  | 28  | 29  | 30  |

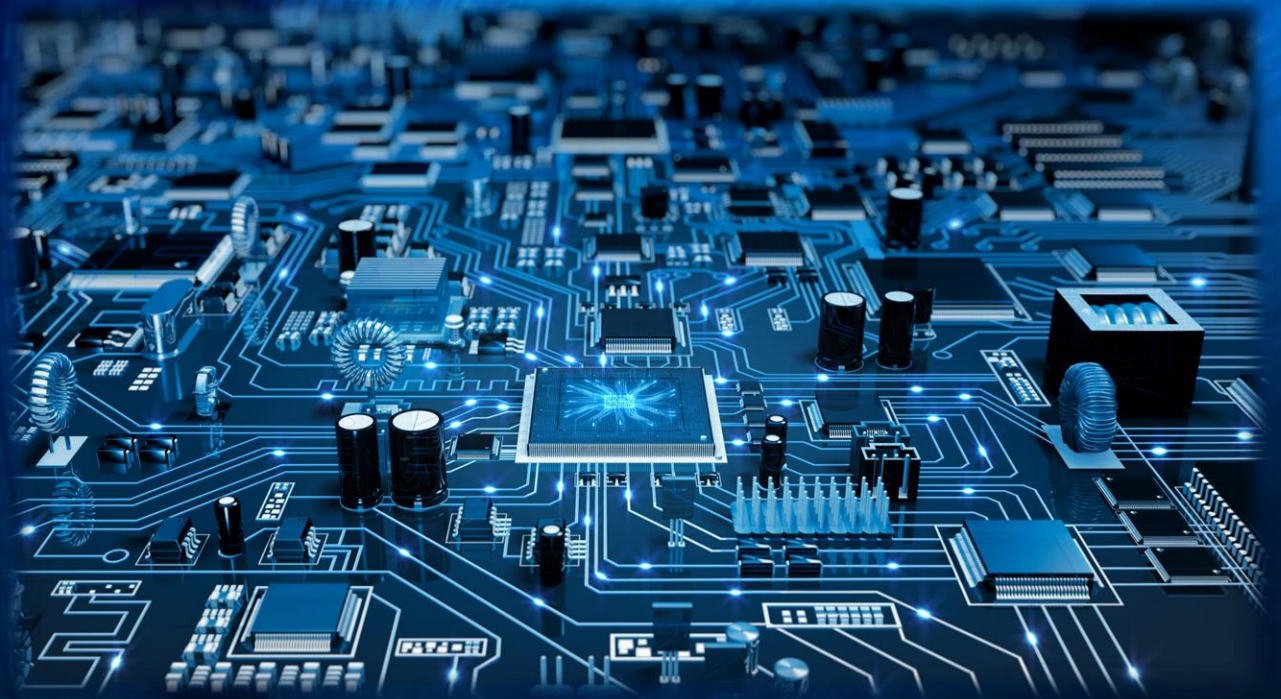
DECEMBER

| SUN | MON | TUE | WED | THU | FRI | SAT |
|-----|-----|-----|-----|-----|-----|-----|
| 5   | 6   | 7   | 8   | 9   | 10  | 11  |
| 12  | 13  | 14  | 15  | 16  | 17  | 18  |
| 19  | 20  | 21  | 22  | 23  | 24  | 25  |
| 26  | 27  | 28  | 29  | 30  | 31  |     |

December 13, Monday,  
Last day of classes  
December 14, Study Day. \*Make-up  
case College must be closed  
December 15, Wednesday,  
English Exit Exam, no classes  
December 16-23  
Evaluation and Examination Period  
December 25-January 1,  
Holiday Break for Staff  
December 31, Thursday, Deadline for  
submission of semester grades - 11:00 p.m.

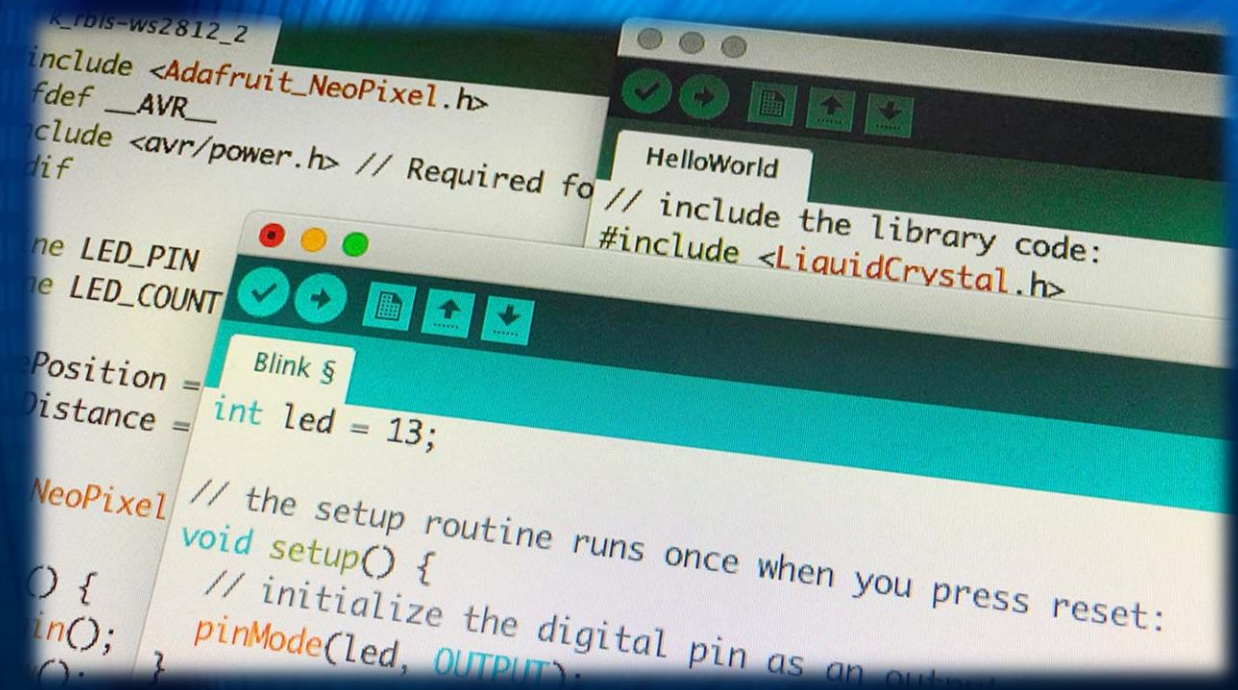
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First day of Summer School classes  
June 9-15, Registration period for  
returning students  
June - Graduation Ceremony -  
Class of 2021-2022





# Schematics

RC CAR & RC REMOTE ELECTRICAL WORKINGS.



# Programming

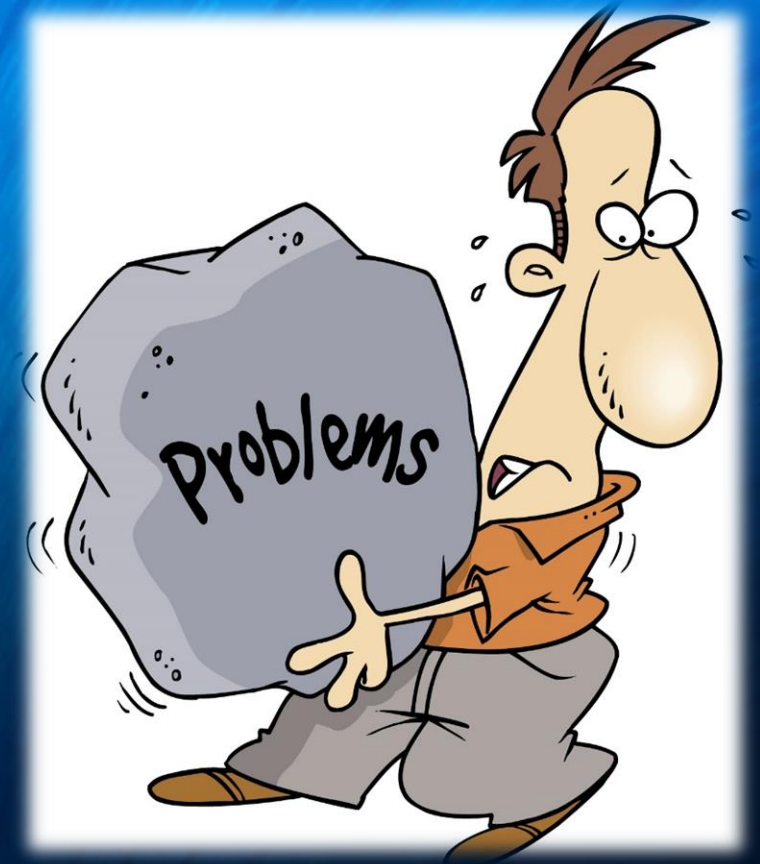
PROGRAMMING THE RC CAR & THE RC REMOTE.



| Filename     | Functionality   |
|--------------|---|
| Car.ino      | Main file for RC car.   |
| Wireless.cpp | Contains initialization and writing functions for RC car wireless module. |
| Wireless.h   | Contains dependencies, prototypes and macros for Wireless.cpp file.       |
| Motors.cpp   | Contains initialization and writing functions for RC car motors.          |
| Motors.h     | Contains dependencies, prototypes and macros for Motors.cpp file.         |
| Lights.cpp   | Contains initialization and writing functions for RC car lights.          |
| Lights.h     | Contains dependencies, prototypes and macros for Lights.cpp file.         |
| Task.cpp     | Contains application-task function for RC car.                            |
| Task.h       | Contains dependencies, prototypes and macros for Task.cpp file.           |

| Filename     | Functionality  |
|--------------|--|
| Remote.ino   | Main file for RC remote.   |
| Wireless.cpp | Contains initialization and writing functions for RC remote wireless module. |
| Wireless.h   | Contains dependencies, prototypes and macros for Wireless.cpp file.          |
| Display.cpp  | Contains initialization and writing functions for RC remote LCD.             |
| Display.h    | Contains dependencies, prototypes and macros for Display.cpp file.           |
| Joystick.cpp | Contains initialization and writing functions for RC remote joystick.        |
| Joystick.h   | Contains dependencies, prototypes and macros for Joystick.cpp file.          |
| Task.cpp     | Contains application-task function for RC remote.                            |
| Task.h       | Contains dependencies, prototypes and macros for Task.cpp file.              |





# Problems Encountered

THE ISSUES THAT WERE SEEN.

Demo time!

