**Summer Program**

**(at Queen of Heaven Parish)**

**I) When:**

**A) Summer 2024, June/July/Aug(1st-9th)**

**B) 8:30am to 4:00pm broken into 2 sessions:**

**1) 8:30am to 12:00pm**

**2) 12:00pm to 12:30: (Lunch)**

**3) 12:30pm to 4:00pm**

**II) What:**

**A) Session One: A particular Project centered around Engineering**

**1) Design an 8-bit Computer from 74LS—series Integrated Circuits**

**2) Create Schematics from the Engineer’s design (Drafting)**

**3) Build the 8-bit Computer from the Schematics (Technician)**

**4) Run required test at Design and Build stages (Quality Control)**

**5) Program the Computer at both the Design and Build stages**

**B) Session Two: Projects centered around Computer Programming**

**1) Examples:**

**a) Robots/Drones: Operating both by remote and Computer Programming (Autonomously)**

**b) Arduino Microcontroller:**

**c) Web Development:**

**d) Game Development:**

**e) Mobile App Development**

**2) Possible Programming Languages:**

**a) JavaScript/HTML/CSS**

**b) C/C++**

**c) Python**

**d) Swift/Kotlin-Java**

**e) Blockly**

**III) How will the program be run?**

**A) What this program is not!**

**1) It is not a structured classroom per se; however, it is possible for participants to take courses online. Some courses are free while some are not.**

**2) a 3 month Python course on freecodecamp.org cost $89.**

**3) there is a free Python course on udemy.org**

**B) For the morning Session:**

**1) This is a group (6-8 students) who form a company**

**2) Each person will have a managerial position:**

**a) CEO**

**b) Department Managers**

**i) Engineering Dept**

**ii) Drafting Dept**

**iii) Technician Dept**

**iv) Computer Dept**

**v) Quality Control Dept**

**c) Each person will be a “worker” in all other Departments**

**i) Example: the CEO will be a “worker” in all Depts and will be assigned a project within those Depts. (eg The Engineering Dept Manager may assign the CEO to design the “Arithmetic Logic Unit” - ALU. )**

**d) Each Manager will receive a detailed list of responsibilities as well as a list of suggestions. (Adults will act as “Consultants”. )**

**e) The emphasis here is to foster “cooperation” among the students.**

**3) If more than 8 students want to participate, the option of**

**forming TWO companies of 6 students each should be possible. Would be interesting to see them compete!**

**IV) Who:**

**A) High School Age Students:**

**1) Chesterton Academy**

**2) Members of Queen of Heaven Parish?**