



COMPUTER SCIENCE AND ENGINEERING

AT ST. JOSEPH'S ACADEMY

Congratulations on your daughter's acceptance into St. Joseph's Academy!

As students prepare for their time with us, two decisions need to be made regarding freshman Computer Science and Engineering (CSE) coursework. All students are required to take one full credit in Computer Science and Engineering during their four years at St. Joseph's Academy. This is usually met by taking the required 0.5 credit Computer Science Applications course plus one additional semester-long CSE course.

We have noticed an increasing number of students are coming in with advanced skills in Computer Science. If your daughter is interested and has previously participated in computer programming (coding) courses, she may be eligible to advance to a sophomore-level CSE course. Students wishing to do this should do the following:

- › complete the CSE skill survey via the link provided in the Survey section below
- › provide a link to a portfolio of her completed projects (see Portfolio section below)

The survey and portfolio submission must be completed by March 28, 2025.

THE SURVEY

In this survey, students will rank themselves on the key skills covered in the required freshman Computer Science Applications course, including the following:

- › staying safe and protecting her digital reputation while using technology.
- › using a presentation tool like Google Slides, Canva, or PowerPoint to create a visually pleasing presentation, including speaker notes, inserted video, transitions, and voiceovers.
- › creating a video from a storyboard and script using basic editing techniques such as combining clips, adding sound, and titles. (ClipChamp is used at St. Joe.)
- › carrying out library, internet research, and digital citizenship skills. (MLA formatting is used at St. Joe and our library subscribes to a number of databases for student use.)
- › creating a program incorporating commands, variables, functions, loops, conditional code, operators, and algorithms. (Sphero robots and Code.org are used at St. Joe to introduce and develop coding.)
- › correctly presenting data in a table and on a graph. (Google Sheets and Microsoft Excel are two programs used at St. Joe for these projects.)

[Computer Science Skills Survey](#)

PORTFOLIO PRESENTATION OF SKILLS

Students who wish to advance place must also prepare an online portfolio presentation of their skills for the Computer Science & Engineering Department (CSE) members. This will determine if advancing out of Computer Science Applications is the best decision.

The portfolio presentation should contain four items produced for her work during eighth grade:

- › a Canva, Google Slide, or PowerPoint presentation which she has created, based on library research,
- › a movie which she has produced on an academic topic,
- › a programming project which she has completed, and
- › a correctly formatted table and graph she created using Google Sheets or Office Excel.

A link to the portfolio should be emailed to Carrie Hill at chill@sjal840.org by March 28, 2025.

COURSE SELECTION

Students who are eligible to advance will be asked to choose between two options to fulfill their required 0.5 freshman CSE credit:

- › Principles of Engineering Design
- › Computer Essentials and Operating Systems
- › Video Production 1
- › Broadcasting: St. Joe Studios
(This is a zero-hour class that will require students to meet before school 2-3 times per week and may require attendance at certain school functions/activities.)

The descriptions for these, and all courses, can be found in the SJA Curriculum Guide on our website.

Additionally, during freshman year, Robotics is available to students who join the JoeBotics team! This team was the first all-female FIRST Tech Challenge team in Missouri and has qualified for the FIRST Robotics State Championship for six of its seven seasons. Students who join the JoeBotics team do not have to enroll in the Robotics course, but it will fulfill the additional 0.5 credit of the required 1.0 CSE credit required for graduation.

Once the surveys and portfolios have been reviewed, you will be emailed about your placement. In the meantime, please feel free to email any questions or visit with CSE Department Chair, Carrie Hill, during the Incoming Freshman Welcome Night.



CARRIE
HILL

CSE Department Chair
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