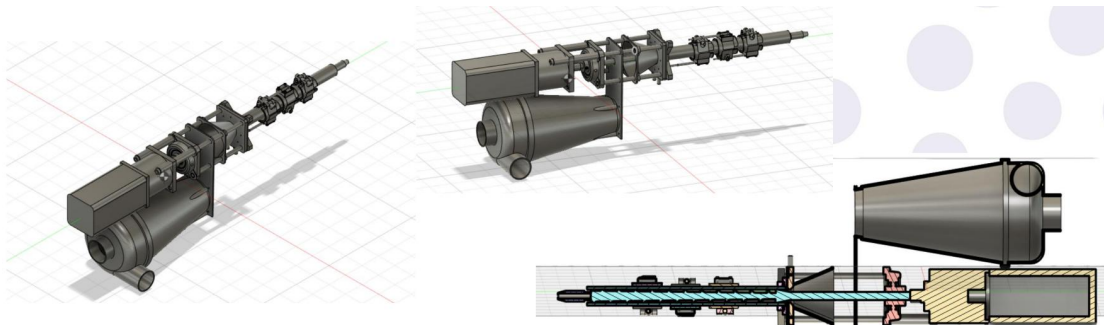


I am Shyngysbek Balgabay, a student of the 11B grade of Nazarbayev Intellectual School of Chemistry and Biology in Almaty. In this report, I am presenting a reflection on the course "Fundamentals of 3D Prototyping and Printing", which took place in June this summer. In this course, I learned a lot about 3D modeling and printing technologies, how they are in demand, how 3D printing products are integrated into our daily lives, and about 3D modeling programs. I have compiled a diary so that you can easily find out what I learned:

Date	Lesson	Task	Result
22.06.2020	Patent Search Lesson.	Learn how to protect your work, the main components of a patent search and the general principles of project implementation.	We learned everything related to the protection of the project and learned how to carry out a patent search.
23.06.2020	3D printing class.	Learn about CAD, CAE, CAM, 3D scanning, CAO, role in production. Create a device model.	Understand what digital modeling and production are. Completed the "Building Views" task in Fusion 360.
24.06.2020	Laser cutting technology.	Learn about laser cutting technologies and programs with which laser cutting is carried out.	Learned the role of "Laser cutting" in production and how it works.
25.06.2020	Mechanics and engineering.	Understand the general principles of design and its role in production.	We learned all the features of building machines, robots.
26.06.2020	Lecture and master class on electronics.	Understand the basics of circuitry and electronics.	Reviewed the basics of physics. We learned what measuring instruments, capacitors, diodes, transistors and inductance are for. We understood what circuitry is, learned how to create virtual printed circuit boards for an order.
29.06.2020	Programming algorithmization. and	Drawing up behavioral charts for phenomena, communities, organizations, people, mechanisms, gadgets, etc. Learn to write in "Dragon" language.	We disassembled what an algorithm is and how it is connected with all objects. Wrote a program in the language "Dragon".
29.06.2020	Negotiation techniques.	Understand how negotiations are carried out, and how to prepare for them.	We learned how to carry out successful negotiations and several tricks.
29.06.2020	Project activity. Topic selection.	Listen to teacher presentations and choose the most	All were divided into groups of 3-4 students.

		suiting group.	
01-13.07.20 20	Distribution. Project work.	Group "3D modeling". Develop a model of a new 3D extruder, analyze existing extruders on the market, develop promotion and sales channels.	We made a diagram of a new 3D extruder and created its 3D model. We dismantled all the features and advantages of our extruder. Prepared to defend the project.
14.07.2020	Closing the online program. Protection of design work.	Presentation of the project.	Successful presentation of the project.



To sum it up, I enjoyed this course on the Fundamentals of 3D Prototyping and Printing. I learned a lot of useful things and will use my knowledge in various project works and competitions. In the future, I plan to study this activity and develop further.

Date: 14.07.2020