Work-Family Balance

Are You Deciding upon Your Career?

Use Your Own Way of Thinking!

Source: Pozabljena polovica, 2007.

Kristina Gorišek, the first female pilot in times of former Yugoslavia (first independent flight in 1932)


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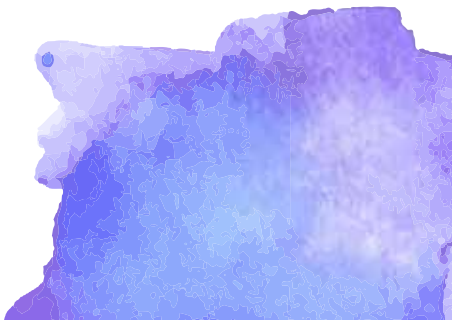
1.
Introductory Speech

Dear girl,

You are about to reach an important turning point in your life, as you will decide about your career path. It is actually quite a simple and pleasant task to do. Ask yourself, what you like to do, what motivates you, and what keeps your mind busy. Develop your talent by choosing the correct schooling which will bring you to the desired profession. Do not allow any second thoughts about the gender division of professions and other similar stereotypes from stopping you. In the traditionally more masculine fields, there are many successful women, who did not restrict themselves as young girls, but rather followed their heart, wants, and dreams.

What will your life be like in 10 years' time? Use your own way of thinking and choose a profession, one you will be delighted to do. Kristina Gorišek, the first female Yugoslav pilot, who made an independent flight in 1932, was thrilled about her choice: "I stepped on the gas and for the first time entered the space between Heaven and Earth all by myself. I was incredibly happy and there were no words that could describe how great I felt." We invite you to "step on the gas" as well and embark on a journey towards your goals, regardless of beliefs about male and female professions. Natural sciences and engineering high schools and faculties, and firms later on, will be happy to accept both women and men into their ranks.



2.
What will you become when you grow up?

I will be a florist. I want to fly to the moon. I am interested in how they make cars.

Use your own way of thinking and choose a profession that you want.

Do you recall, which profession it was you dreamed of a few years ago? Children do not close the doors ahead of themselves. They simply jump over the obstacles. That is why their dreams are genuine and their wants are infinite. Let your curiosity drive you on the way of choosing your profession and career. Let yourself follow your dreams. If you want to fly over the clouds, become a scientist, or discover new medicine for diseases, the world is your oyster. Despite stereotypes and gender division of work, female professionals from the field of natural sciences and engineering show that girls excel in all kinds of professions. For example, Sonja Zagorc, who graduated in the field of Solar Power Plants with Photovoltaic Modules on Dumping Grounds at the Faculty of Electrical Engineering in Ljubljana, has cooperated in the sustainability assessment of nuclear technology in Slovenian electricity generation via the Jožef Stefan Institute and the GEN energija company. Enthusiasm led researcher Danijela Bronzin into the IT skills and complex computer systems, whereas Perunika-Djina Kokic has always been interested in how things work and how to improve them. She was not stopped by gender division of professions but only followed herself and chose the profession of a constructor. Even you can develop your talent and explore the world of professions, which is going to open up to you at the end of primary school. Follow your curiosity and get to know various professions from the field of engineering, natural sciences, information

technologies, and many others.

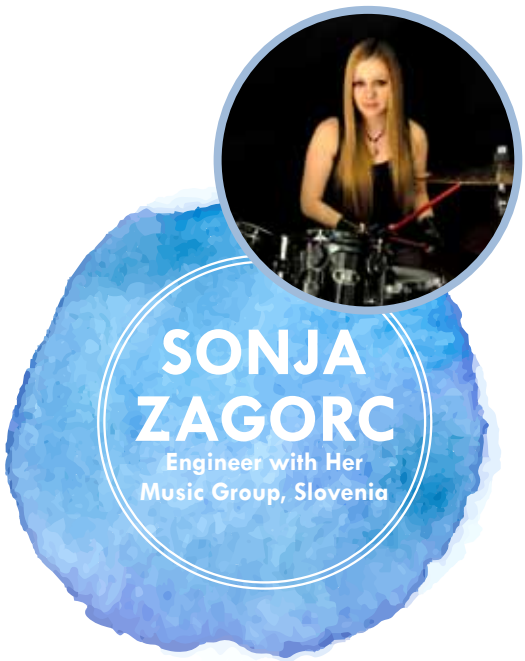
Employment Trends

It is hard to predict which professions will be sought after the most in the future, but currently the greatest demand is for technical professions, such as engineers, mechanical engineers, and electrical engineers. Graduates from natural sciences and engineering are most likely to find an appropriate occupation. Computer sciences are another prospective industry, because programmers, analysts, system designers, and system administrators are in high demand. For some time now we have been facing a lack of workers for simple construction work, workers in the field of metalwork (welders, locksmiths, toolmakers, turners), wiremen, electricians, drivers, as well as carpenters, chefs and waiters. New positions are therefore opening up particularly in traditionally male professions; however, girls are more than excellent in doing these jobs. Slovenian companies are well aware of this situation, so they are gladly accepting both male and female employees.

Follow Your Curiosity, Choose Your Occupation

Do not pay attention to social stereotypes and do not let the gender divisions stop you. Believe in yourself and in your talent. Choose an occupation that is going to fulfil you. After all, we spend a lot of time working, and job satisfaction affects other aspects of our life. So, do you like to study animals and microorganisms, are you interested in properties of materials and energy, or are you wondering what telecommunications are? If you are interested in how systems for sending e-mail work or if you, for example, want to take part in car production supervision or do the supervisory work at building sites, then there is no doubt that natural sciences and engineering flow through your veins as well.

3.
Stories of Successful Women



Rocker Sonja Zagorc proves that electrical engineering is not reserved for men. The musician is best known for her role as a co-founder of the female rock group Hellcats, in which she is an incredible drummer and a songwriter. The female music group has been creating music for seven years now and is active both at home and abroad. Sonja, however, is full of many other hidden talents. She graduated from the Faculty of Electrical Engineering in Ljubljana on the subject of "Design and Analysis of Solar Power Plants with Photovoltaic Modules on Dumping Grounds", while successfully combining the study with her music career. She also spends her free time dancing, as she has been taking jazz ballet lessons at Kazina dance school for 12 years. Versatile Sonja devotes her free time to another passion. Since October 2012, the energetic drummer has co-operated in the sustainability assessment of nuclear technology in Slovenian electricity generation via the Jožef Stefan Institute and the GEN energija company. Sonja says that different passions, which may at first glance seem to contradict each other, fulfil her and turn her everyday into a colourful rainbow. She uses the knowledge and the skills which she obtains in one area in other areas too, and proves that science goes hand in hand with art. The engineer, dancer, drummer and researcher does not lack energy, so she looks forward to new challenges and further creativity – all in the field of dancing and music, as well as in the world of electrical engineering. Sonja is therefore successfully following her dreams. With her knowledge and experience she quickly resolves challenges that she faces. Work and hobbies fulfil her and she does not believe in gender division of professions. That is why she likes the idea of the Girls' Day. She believes that raising awareness among girls that male professions are not merely intended for men, is great.

Danijela Bronzin graduated from the Faculty of Civil Engineering in Zagreb. At the time of study she worked as a teacher of basic and advanced IT skills in several educational centers, and specialized in office productivity software, Microsoft Office and the Windows operating system. She works in own IT development company CITUS which produces complex computer systems, and offers consulting in the development of Web and smart applications, mobile solutions and UC solutions based on the Microsoft platform. Her company has been awarded with more than 50 top international awards for ICT innovation, in the United States, Russia, Korea, Taiwan, Thailand, Polish, Croatian and Malaysia.

She has created an interdisciplinary and multidisciplinary team with eco systems all over the world. She gives equal opportunities to every member. Her team is 40 % female.

She truly understands the problems of day-to-day business operations for Croatian companies and through their vast business experience she learned a number of important facts and shortcuts that can help entrepreneurs in successfully navigating the sea of everyday regulations and problems. She is providing trainings and educations for the staff of a number of micro and small businesses, and large Croatian companies. She is also providing the trainings for the use of basic and advanced ICT skills for people with disabilities, young people and the unemployed.

With 16 years of experience in trainings and educations, as well as managing her own IT company CITUS, Danijela Bronzin is also a proud mother of two children.

DANIJELA BRONZIN

Owner of company CITUS d.o.o., Croatia

PERUNIKA-DJINA KOKIC

Entrepreneur in Construction Sector, Montenegro

Upon completing the Faculty of Civil Engineering and after years of work experience in public enterprises and state authorities, thirteen years ago I decided to try out private business and founded my own construction-projecting company INGENIUM LLC in Podgorica. Believing in my own capabilities and being driven by great enthusiasm I engaged in something that at that time and even in my closest surroundings was considered brave but risky. However, two decades of positive experience and accomplished results have confirmed my vision back in those days was right. A proof that construction is not the sector dominated exclusively by men and that women can be at the head of a successful company, is confirmed by years of my own experience in leading a private construction bureau INGENIUM LLC.

It is obvious that today we live in times of breaking such dogmas, when women globally get the place in all segments of actions if only they wish to and are able to prove their skills and accomplish themselves, even in those occupations such as construction that were once considered only male-dominated. Presenting female capabilities, especially in occupations that are par excellence considered male – such as construction, could bring additional challenges and difficulties to a woman which is somewhat understandable. Indeed, at the very beginning of engaging in private business I encounter barriers in the form of prejudices and doubts that are typical for our a bit conservative society and environment. But results came after persistence, great self-sacrifice and investing a lot of energy along with, I can now immodestly say so, recognition by my male colleagues. Ultimately, even construction sector became relieved from gender differences since, finally, quality service, good business outcomes and great responsibility over commitments taken in relation to clients are the only measure of success.

The architecture is a mixture between art and science, and I have been in love with art and science throughout my whole life. I had the great fortune to choose the profession I love and will continue to love every day. Architecture is a profession as much as technical as artistic, and my nature is as such as well. Company Pana is my first child, unplanned, but very beloved when it came to life. It is the result of many factors in my life. 4 years ago I worked in a project with orphans and disabled who are destined to have a very hard life. Parallel to this my late father retired and I saw how a man enormously energetic and intelligent was suddenly without any activity. So, I thought that these two groups were ideal to work together. Architecture, on the other side have shown the lack of authentic furniture in the market. The love for nature taught me how to produce ecological furniture. And here we are. All these elements together made possible the birth of Pana.

Pana was established in April 2013 by a competition for green ideas and social business. Pana employs persons from marginalized groups, mostly orphans, pensioners, roma and disabled. Pana produces wooden furniture and accessories from the old wood and recycles old furniture by preserving the environment at the same time.

I dare to say I am far from my aspirations related to Pana and I still have a lot to do. I also had a lot of problems in building a reputation and respect of the people I work with. Being a girl in production is very difficult. I learned in a short time how to gain men's respect, and I have to say that I showed them that a woman is equal to men when it comes to work. Nowadays, they treat me equally.

PEZANA REXHA

CEO and owner of company Pana, Albania

BOJANA RUSIĆ

Leading engineer in "Via Ocel d.o.o., Serbia

After I finished the secondary school of economics in 2001, I enrolled in Faculty of Mechanical Engineering just because the studies were paid by the state and this was a way for me to keep the financial support of the state. Less importantly, this was also one of logical choices considering my previous education. The plan was to pass couple of exams that are valid also for the Faculty of Organizational Sciences, and then to move to this second Faculty.

During the first days of studies I met a lot of my current friends. One of them is a friend who enrolled in this Faculty because her father was a mechanical engineer and owner of a successful company. Even though we had different reasons for enrolling in this particular Faculty, we were brought closer by our love for natural sciences and numbers. We studied together, passed exams together and successfully "swam" together through our first year of studies and, for me, totally unknown curriculum. We had full support and help from our male colleagues who significantly outnumbered us - girls. In spite of the fact that there were a lot less girls, we felt respected both among colleagues and among professors. As time went by, I learnt that mechanical engineering was something that I want to graduate from and something I want to do for living….

So, I graduated from department for boilers and I was lucky to immediately get a job within my profession in a company that was rapidly developing. My workplace is in engineering sector where it is necessary to have ability to organize work and a comprehensive picture of all of its segments. I work as a Project Leader and I am responsible for engaging production line, purchase, installation, relations with investors and designers within my project. Projects are

expensive, they demand high level of responsibility, and my job is both interesting and stressful. There is always something new, it is totally unpredictable and it does not allow monotony which is, anyway, not in my nature. Even though it is not unusual that we, women, hear now and then some unpleasant comments from male colleagues, there is by way a lot more support in this cruel world of private business, that has to chase the short terms, income, tireless desire for self-assertion in various ways… My carrier is on the rise, I gain and get more and more practical knowledge, acquaintances and respect.

My advice to all the girls who are about to enroll is to first get rid of all prejudices and pressures from their environment, to be well informed about what their future profession requires and how much they can be devoted and determined, not to let their secondary education stop them but to look for profession that better suits their character. Finally, if they want to have dynamic and creative job, my advice to them is to enroll with Faculty of Mechanical Engineering and to become engineers!

All my life I have grown up with military discipline at home. The uniform, the subordination and the discipline were the basic guide for the desire to become a military person.

After completing my primary and secondary schooling I had an occasion to attend training on Noncommissioned Officers - Service in the Army of the Republic of Macedonia. For me it was a great honor and pleasure. I stood shoulder to shoulder with the cadets of 4 generations (men) of the Academy. This generation was the 3rd consecutive women in the Academy. After completing the Military Academy I acquired the rank of Sergeant and was deployed to work in the Military Premises.

My first job was as Commander of a Department - Deputy Commander of a platoon and was responsible for conducting training of young soldiers. By 2003 I gave lessons to the soldiers: training drills, engineering trainings, artillery trainings, Force and Air Defense drills, Communications drills, ABHO drills (nuclear, biological and chemical weapons) etc. Also, I have spent a lot of field and camping trainings, different types of survival trainings, commander of the guard service.

After 2003 I was deployed to work as an Officer in the quartermaster service and supply, in one of the most prestigious ranks, the Air Force and Air Defense. Until 2013 I was honored to work with the pilots and the technical personnel responsible for the defense of the aerospace of our country. For such experience I have acquired multiple Certificates of Merit due to my participation in many national and international exercises.

Meanwhile I was progressing with my years of service and merit and now I possess the rank of Senior Sergeant 1st Class.

The desire for a uniform encouraged me to take studies in Criminology that I successfully complete and acquired a Master Degree in Forensic, Department of Physics. Today I am completing my second faculty, Law Faculty, Criminal Law Department.

Meanwhile I want to emphasize that I am a mother of teenage daughter of 12 years.

Construction as a prevailingly "male" occupation? If judged by hard physical labour and "stern" work management at construction sites, then yes. But from the perspective of accuracy, diligence and coordination, women often prove to be better. That is the opinion of Teja Török, a graduate in civil engineering, who has been working at the Pomgrad construction company for more than three years now. She graduated in civil engineering at the Faculty of Civil and Geodetic Engineering (UL FGG), where during her study she was also a tutor coordinator and a president of the Student Council of UL FGG, managed several student projects and represented the Faculty at conferences and fairs. After graduating, she started to work for the Pomgrad Company, where she was a construction site manager assistant on the Pragersko-Hodoš level crossing modernisation project (sets D, E and F) for two years. Currently, she is working in the development department, where she is responsible for the processing and management of monitoring several development projects. Teja says that women have it harder in the building industry, especially at construction sites. It really takes a thick skin and you have to prove yourself to be as competent as the male population. It sometimes happens that the opinion of a woman doesn't count as much as the opinion of a male co-worker. On the other hand, there are days when we feel attention, respect and gratitude expressed with a chocolate desert on our desk. In the office, these differences are perhaps less strongly expressed and we can be more competitive. She likes to work in male teams, because they are more relaxed, cheerful and there is a lot of laughter, although much of it on account of women. Besides her regular work, Teja also tries to improve her professional competencies in her free time. She has just finished writing a science article entitled "A holistic assessment of sustainability aspects in the case of a single family detached house", which was published in the Gradbeni vestnik gazette. Teja considers the Girl's Day project to be an excellent initiative to overthrow stereotypes about male civil engineering and believes that women in the construction profession are just as indispensable, even if there aren't so many, since they can bend armature and build houses just as well.

TEJA TÖRÖK

Pomgrad Company, development department, Slovenia

4.
A Better Representation of What You Could Do

In this chapter, we present to you certain fields of natural sciences and engineering, as well as professions and educational programmes connected to them. Of course, this is not nearly everything there is; there are many more possibilities left. At the end of this brochure, you will find a list of websites that we browsed through. You may want to browse them yourself, so that you will find plenty of additional information.

Electrical Engineering

For some time now, electrical engineering has no longer been a science connected just to electrical current or voltage. Next to electronics and electricity, people with education in electrical engineering develop and build areas of telecommunication, automation, robotics, biomedical engineering, mechatronics, renewable energy sources, multimedia communication, etc. All areas are imbued with computer science and information technology, the most modern types of communication, the use of the World Wide Web and multimedia solutions.

As an electrical engineer in the framework of technical secondary education you will be qualified for solving technical problems. You will learn how to design circuits, get to know the activity of basic elements in electronics and electronic assemblies. You will get to use software for the design, programming and simulation of electrical systems. You will create documentation with relevant programmes, use measuring instruments, create independent projects, and learn entrepreneurial thinking.

In the framework of the study of electrical engineering, you may decide for various fields of study, such as electronics, energy, automation, robotics, and telecommunications. Study of electrical engineering will give you wide and quality competences, so you will have a good chance of getting employed in various companies that cover the above stated working areas. In addition to the basic training for engineer positions from the wider area of electrical engineering, you will gain enough theoretical knowledge to be able to get employed in many other areas of economy (e.g. chemical, pharmaceutical, rubber and tyre, textile and food industry, metallurgical industry, trade, transport, information activities and services), as well as non-economic areas (public administration, education, research and development institutes, medical activities, etc.). Gained competences will enable you to take up management functions in small, medium and big companies.

JERNEJA ŽGANEC GROS

PhD – entrepreneur, Slovenia

Ever since I can remember, I have been interested in linguistics, natural sciences, and music. The technical knowledge that I have gained enables me to effectively link all of these areas together. After I finished my doctoral studies, my colleagues and I recognised the power and the importance of investment in the research and development of new, innovative products. We gathered around in a developmental company that successfully marketed our knowledge. Currently, I work for Alpineon razvoj in raziskave, d.o.o. – a company, which I co-founded. Our company implements development projects on requests. We also invest a lot in the research of our own products. Much of our attention is given to the protection of intellectual property. We are collaborating in many domestic and international projects from the field of linguistic technologies, which enables me to use knowledge that I gained with the doctoral studies of electrical engineering. Among these projects is also the development of a convenient speech-to-speech translation communicator VoiceTRAN. We are regularly co-operating with several faculties and institutes at home and abroad, by which we are trying to find the right balance between searching for "useful" and "fundamental" and the dissemination of work results through new products and patents on one side and the scientific publications on the other.

TIJANA RADULOVIĆ

student - Electrical Engineering, Montenegro

I am a student of Master's program at the Electrical Engineering School in Belgrade. I have completed a study program of Electronics, Telecommunications and Computer Engineering and Specialist Studies of High frequency at Faculty of Electrical Engineering, University of Montenegro.

Ever since I was interested in science and mathematics. Throughout high school I realized that I was very good at it and the Electrical Engineering Faculty is a place where I was going to improve my knowledge and gain practical experiances. I think that this faculty is very promising and offers great employment opportunities. There are many examples of women who have achieved remarkable results in science and who are breaking stereotypes of exclusively male and female professions. They proved that women can be equally, if not more successful that men.

Looking back my colleagues were always correct and fair in mutual communication, my opinion was respected. Besides a successful career my life goal is having a family one day. Both the career and family take a lot of time and effort. I hope I will manage to balance my work and private life being fully committed to both of them.

Media and Multimedia

Are you interested in preparing websites? Would you like to join in the making of magazines, books, and newspapers? Do you want to be a part of the team in a TV house? Do you like to take photos? If so, you will have a good possibility to fulfil one of your career wishes by enrolling in the Media Technician programme. You will have numerous options to build your career. You will be able to get a job everywhere that graphic preparation takes place, i.e. in design studios, smaller or bigger printworks. You will also be able to work in the companies with other principal activities, but that also take care of graphic preparation of their products themselves. Thus a pharmaceutical factory may take care of its own graphic preparation and press of the packaging for their medicine. You may also be employed in TV houses and other companies from the field of media production, graphic, media and audiovisual communications. You may continue your professional training in the discipline by entering the Media Production or Photography studies of higher education programmes or choose professional higher education study programmes. In addition to the four subjects for vocational matura, you may take an additional exam for the subject of general matura of your choice. That way you can continue your schooling at the university study programmes.

As an engineer of multimedia you can become incredibly competitive. The new study programme Multimedia joins some of the best characteristics of electrical engineering, computer science, creativity, business knowledge, and communication.

Computers and computer programs, smart phones and internet have become so widespread that they are everywhere and are basically our self-evident life companions. Therefore it is no longer enough that electrical engineers and computer scientists are merely experts at planning technologies, developing computers and internet and phone connections. It is important that we excel not only in technological skills (e.g. how to program an application for a smart phone) but also in creative techniques and skills for creating contents, forms (e.g. video production, animated characters, virtual 3D environments, etc.) and experiences (e.g. interactive catalogues or video games).

More and more daily chores are done over the internet and mobile devices, from watching news

and events, to making decisions about shopping and to choosing a travel or a party destination. The number of digital devices that enable the combination of real and virtual environments is increasing. New ways of the co-existence between a man and technology therefore demand knowledge for the creation of good user interfaces. Internet and digital content is being rapidly included into numerous new areas, cars, home devices, and into the fields of medicine, education, art, etc.

By studying multimedia you will become an expert, trained for dealing with new and innovative challenges of modern life. You will excel at all you need to bring your talent and imagination to life in the digital world.

Computer Science

Our computer science technician use her computer as a mechanic machine. She therefore operates, maintains, and checks the computer system and controls the automatic processing. At her work she is trying to discover malfunctions, points them out and searches for good solutions. A computer science technician looks after the 'brain' part of the computer. She takes care of programming the data processing of larger software packages and of managing the data preparation. Working conditions are not hard. In addition to her programming knowledge, she needs to possess some organisational, business, and administrative-technical skills.

It will be even more fun to decide for the study of computer science, as you will surely not get bored. Computer science is developing very fast. It affects the development of new technologies and enables new discoveries in all other areas too. Have you ever asked yourself, how touch screen monitors work and how you could make one the size of (and in the shape of) a table for little money? Would you like to try to connect a sensor suit that captures human motion with a robot, repeating the same motion in the next room (building, city, country)? Are you perhaps interested in real, big industrial robots instead of small humanoid toys? Find out more about this and other topics by studying computer science.

By educating yourself in the field of computer science you will gain the right knowledge to work

and get employed in the pedagogical and research fields, for example in system administration (computer and other companies and institutions), programming (computer companies), building information systems and education. In addition to basic knowledge of computer sciences, information technology and basic mathematic skills, you will obtain a wide range of school subjects and general skills that will give you an insight into other study fields and thus more chances to get employed.

My name is Kristina, I am 20 years old and I am at the second year of The School of Electrical and Computer Engineering of Applied Studies. I often think about happiness and fulfillment of dreams. These are two completely different things, but one cannot be without the other. I am happy, but as accomplishments come to real, my ambitions grow. I see that reaching certain goal is definitely not an end. My plan is to finish the studies and allow myself a short break on the basis of a hobby - as a dancer somewhere abroad, but I look at this only as a "temporary absence" and possibility to meet other cultures. The real thing, the dream coming true, is coming later and I need something solid in my hands, some knowledge that I can put to life and make a living out of it. The good things about professions related to computers is that one can always upgrade existing knowledge to variety of directions and easily adjust to novelties.

I enrolled in this School because it most looked to my wishes about future profession – job related to computers. We are very much involved with practical work which is very important for this profession. Actually, I like everything related to this profession and this school. I receive a lot of quality knowledge, the professors are supportive and innovative and it is quite easy to study with their constant overlooking. Students are also very positive and I never feel or see any notion on gender difference. I was very afraid at the beginning, wondering if I would find myself in a mannish surrounding and atmosphere, but the love for computers was stronger. Now I see that my fears were ungrounded. If I could return time, I would again choose this profession and enroll in this School, without any second thoughts. What I particularly see as a plus, is a fact that the possibilities for finding a job are big and, considering the growing digitalization, the options are getting more and more diversified.

Anyone who sees him/her-self in a certain profession, regardless if it is "male" or "female", should go for it. There should be no limits! I personally find a lot of satisfaction in both dancing and computers, why any other girl would not?!

PETRA PAVIĆ

student - Business Systems Organiser, Croatia

Petra graduated business informatics at the Faculty of Organization and Informatics in Varaždin. After that she enrolled differential year and graduated in Business Systems Organization. Very communicative, social and likes teamwork, she constantly works on her personal development in different areas. In her spare time she is engaged in fitness activities, she loves literature and she is also active in the field of photography.

She was part of the winning team "Team Office" from the Faculty of Organization and Informatics in Varaždin, which won first place at the eSkills Master Guru IT Challenge. What is eSkills Master Guru IT Challenge? Students of all Universities and colleges from the Croatia can participate in this competition, gathered in teams of up to 4 members per team. Competitors are presented with business problems that they will, as part of a team, solve and find creative solution that is based on modern technologies. In addition to understand the technology and demonstrate an understanding of the business needs of today's businesses, that includes the economic aspect of the feasibility of this solution and cost estimates.

Mechanical Engineering

Work fields that you can participate in with education from the field of mechanical engineering are incredibly diverse and wide. You may be employed in all industrial activities, crafts, trade or even in certain non-economic activities.

You may become a mechanical engineering technician, for which you will need technical secondary education of mechanical branch, or a mechanical engineer, for which you will need a diploma from the faculty of mechanical engineering (post-secondary technical or university degree).

A mechanical engineer can deal with construction and design. The most profitable products at a global scale are usually completely new and patented products, because they are a result of planned development work. Mechanical engineers are key professionals in development groups and have a good know-how of the entire methodology of constructing. In all industrial branches and even in other parts of the economy, machines, devices and vehicles represent the material basis for production and processing. Every machine malfunction brings the entire procedure to a halt and by that not only causes basic damage, but frequently also an even greater secondary damage. Places with plenty of machines, devices, and vehicles need a graduate engineer, who leads their maintenance.

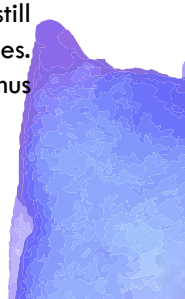
A mechanical engineer uses different tools, machines, and devices at her work. Recently, her main working tool has been a computer, on which she designs and constructs demanding elements. She mostly works in closed and tidy workspaces, rarely on open air. The most important psychophysical skills for successfully performing this profession are having sense to solve technical problems, general resourcefulness and the sense for solving mathematical problems. A mechanical engineer needs to have an incredibly advanced sense of responsibility for her work. She needs to be self-initiative, resourceful and capable of estimating things in newly formed situations. She needs to be communicative, know what is expected from her and do her work in a quality manner. She also needs to be ready to work in teams and to undergo constant educational training. Mechanical engineers' work is usually not physically demanding.

Construction

A construction technician can work at the construction site, in a planning studio behind the drawing desk, in a laboratory or at a state administration post. Her work is diverse: She helps leading and organising work at the construction site, prepares work surveys, pre-measurements and pro forma invoices, controls and prepares a balance sheet for the work that was carried out, co-operates in planning, makes technological preparations, conducts research in laboratories, works at separations and in concrete factories, works in the administration service. Any tall, low, or water building needs a plan prior to its construction. A construction technician can be of useful help to engineers or architects when creating technical documentation. At the construction site, she participates in taking measurements, which enables the beginning of construction. She needs to follow the course of construction works until the moment when professional and supervisory commissions start coming to the construction site. She also has many contacts with craftsmen of final construction works. During the construction she helps the civil engineer. She needs to be good at ordering materials, as well as the organisation and the control of installed materials and the final product. She needs to take care of proper workers' safety and safety of materials at the construction site. Each and every material that is installed in construction elements and constructions, as well as the final product, must comply with standards and regulations. Control is performed in laboratories, and a construction technician can also participate there. A separation and a concrete factory are a special type of laboratory. The Construction Act regulates the procedures to obtain a building permit, as well as an operating permit after the construction has been finished. A lot of work during this procedure can be done by a construction technician.

A civil engineer can control the construction of buildings, perform the construction works, organise the construction site or work as a designer in planning construction works. In a laboratory, she can examine and test building materials, control the investments of building works for the state administration or work in sales, where she is acquiring new customers for construction works.

Naturally, professions in the construction field are slowly changing as well. Today, we are still building with classic materials, which are increasingly more being replaced by the modern ones. The building designs are changing and the demand for new, more modern designs is growing, thus creating new areas of work.



It will be hard for you to work in the construction field if you are afraid of heights or closed spaces. As a construction worker you need to be resourceful at work and know how to quickly adapt to individual situations. You need to realise problems fast, evaluate them, and choose a solution. You need to have a sense for a clear spatial representation of the plan and for the evaluation of calculations. Often a sense for beauty is important. You need to be ready for constant monitoring of novelties in the areas of construction and laws. You should like team work, as there are many people and different jobs working together at the construction.

Logistics

Logistics includes planning, preparation, leading, and carrying out all activities, connected to goods or loads and passengers. Work takes place in factory warehouses, department store warehouses, terminals, ports, railroads and airports. Logistics of passenger flows is important too. Activities, connected to people, are namely present in all aspects of our life – the movement of patients in hospitals, leading the visitors in all institutions and the movement of passengers in traffic.

A logistics technician contacts customers in Slovenia and abroad, plans, prepares, and carries out activities in passenger transport, as well as in freight traffic. She needs to find the cheapest and the fastest transport and choose safe routes. The goal of logistics is to ensure the right services and goods in the right place at the right time, with the lowest costs and the biggest profit, which is of key importance for successful economy, while at the same time ensuring the majority of posts in our working environment.

Secondary technical programme logistics technician is perfect for you if you are interested in international business, work organisation, technological knowledge and traffic. You will be qualified for the professional work in companies and at the same time gain wide general knowledge that will enable you to continue your studies at high, higher or university study programmes. The profession of a logistics technician is an excellent starting point, which enables you to obtain other professions by upskilling, such as: policewoman, insurance agent, shipping agent, instructor driver, etc.
Employment opportunities are great, as the logistics technician is a modern profession that is fully flourishing. It ranges from the industry to the state administration, from ships, planes, trains and

lorries to shops. It is one of the most sought after professions in Europe and in the future, an even greater demand for logistics technicians is expected.

Carpentry and Woodworking

As a carpenter you will be able to accept orders for wood products, draw a plan or a sketch if needed, prepare a list of materials and goods and order it or buy it. You will prepare wood and auxiliary materials for the processing or installation of round wood, planks, springboards, battens and boards. You will need to have a sense for design, beauty and creation for the carpentry work. Wood processing will enable you to express yourself and to create various products. A carpenter works as an independent craftswoman, who creates, mends and restores room, kitchen and other furniture, as well as builders' wood joinery or creates various objects out of wood, such as toys, carvings and instruments. Employment is available in various places – in companies that create builders' wood joinery or other furniture, in construction in making constructions, bridges and roofing, and in shipyards in creating the equipment for ships and building boats. She may also work as a maintenance woman of residential block of flats, in a shop or in a salon as a repairwoman, as a warehouse employee in shopping centres, in department stores and other specialised shops.

Works that can be done by a woodworking engineer are also diverse and encompass many different fields. Woodworking engineer may deal with the development of new products, their construction and design. She makes the project technological documentation or entire documentation when there are new investments, leads and organises works which are needed for the undisturbed activity of the production process. She conducts various laboratory analyses of raw materials and other materials, creates reports, contracts and pre-orders. Her tasks also include safety measures and protection of environment. She collaborates with representatives of various institutes and leads and co-ordinates various procedures from the purchase of raw materials to the sales of products.

Woodworking engineers are one of the key professionals in leading companies and development groups, so they need to know well how to conduct business, from the first contact with their customers to the production itself. Modern production in the woodworking industry is closely connected with

other industrial branches, while a woodworking engineer takes care of undisturbed activity of automated processes in collaboration with other professionals.

Chemistry

Work in the field of chemistry is diversified and primarily depends on the place of employment and the tasks connected to it. The fundamental activity includes research and development and work in control laboratories. As a chemist you can work in many branches of industry, such as in chemical, pharmaceutical, food, textile, leather and metallurgical industry. You can also work in healthcare, e.g. in a clinical laboratory, in education, ecology, inspection services, the police and in the army. Chemists are employed in scientific research facilities, at the universities and in companies, where modern biotechnological procedures are being implemented. It seems that in the future there are going to be increasingly more employments in smaller companies that will produce smaller quantities of high quality products that require top knowledge from the fields of chemistry and biochemistry in order to be prepared.

At her work, a chemist will use apparatus, controlled by corresponding computer programmes. Chemists use specialised literature to a large extent. It is available in forms of various databanks, magazines and books. Chemistry and chemical engineering are most likely to have the most developed global information system and databases, in which the results of the current work are collected, as well as characteristics and other features of about 23 million different compounds. These data alone or in combination with her own results are used by the chemist for the computerised simulation of processes that she is researching. They can lead her to a better understanding of the research process or to a better knowledge of characteristics of a substance, such as the structure of biological macromolecules.

The wider area of chemistry, covered by different professions, such as a university graduate in chemistry, a university graduate in biochemistry and a university-graduated engineer of chemical engineering, has become one of the fastest developing areas. In comparison to a chemist, a chemical engineer has more technical knowledge and a more interdisciplinary educational basis. In addition to engineering and chemistry knowledge, he has knowledge that enable him to

participate with other experts of natural sciences and engineering.

Car Bodyworks

Do you like cars and want to learn how to fix them and paint them according to your wishes? By becoming a car bodyworker you can make this wish come true and become one of the most sought after craftswomen.

During your education course, you will receive the training for maintaining and fixing frameworks and bodyworks, vehicle exhaust systems, for the preparation of colours prior to their application and for the maintenance, mending and preparing anti-corrosion protection of vehicles and polished surfaces on vehicles. You will learn how to diagnose the state of frameworks, bodyworks and vehicle upgrades, as well as the state of painted surfaces on vehicles. Because workshops include service activity, you will be trained for knowing the professional terminology and know how to communicate with customers. In regards to the development guidelines, you will know how to prepare safe work environment, as well as take care of health protection and rational use of energy, material and time.

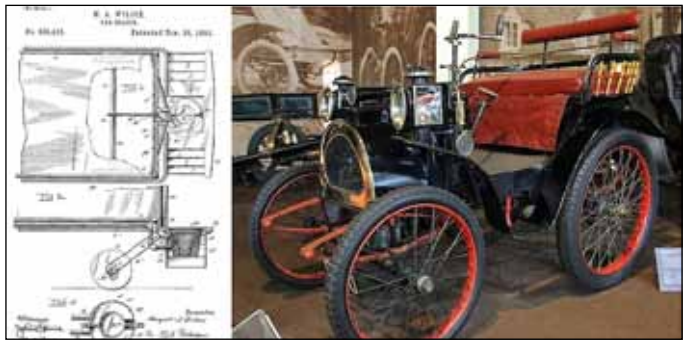
Practical training, which includes work, is a part of education course on the basis of a study contract that a high school student may conclude with an employer by herself (individual study contract) or the school does it for her (collective study contract). Practical training with work lasts at least 24 weeks and is intended for the development of professional competences in the real working environment.

Your professional career can be built in car repair shops, car body repairman and car painter's workshops, at various work positions. You may continue your education in the field immediately after the final exam in the programme of vocational-technical education: automotive service technician, mechanical engineering technician or traffic technician. Of course, this is not necessarily the end of your education. You will find programmes of a post-secondary technical education and even university programmes. You will not have any trouble finding a job, because a good car bodyworker is a well sought after job these days.

5.
Things Women Invented That Changed the World

Car Heater by Margaret Wilcox

Imagine driving through a hilly area on a cold winter night without a heater! Well, you have Margaret Wilcox to thank. She was a mechanical engineer and invented the car heater in 1893. the car heater which acted as “two shots in an arrow”! Heater made driving easy by keeping windows mist free and also maintained car interior at chosen temperature. Heater was the most notorious experimental invention that is considered still to be most valuable.



(Source: http://www.sliptalk.com/women-inventors/)

Times when it was difficult for women to prove their potential, this woman did something great.

Windshield Wipers by Mary Anderson

Anyone who's ever driven in a rain or snow storm can attest to the dire importance of windshield wipers. Mary Anderson invented the car-window cleaning device in 1903. Anderson's invention came about during her trip to New York City when she noticed that streetcar drivers had to open the windows of their cars when it rained in order to see. As a solution, Anderson invented a swinging arm device with a rubber blade that was operated by the driver from within the vehicle using a lever.

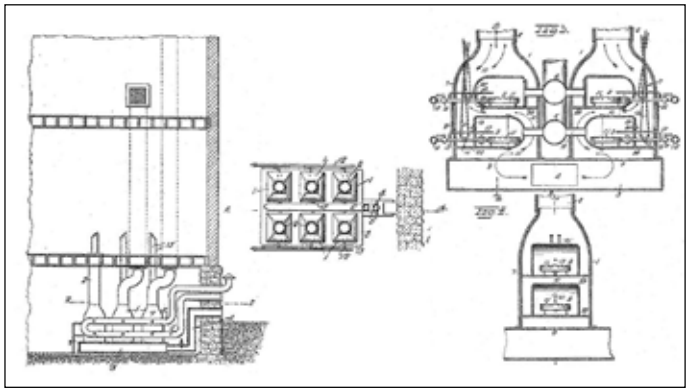
(Source: http://automedicsafrica.com)

Many people were initially leery of Anderson's windshield wiper invention, thinking it would distract drivers, but by 1916 windshield wipers were standard on most vehicles. It was also a woman inventor who first patented the automatic windshield wiper in 1917 (Charlotte Bridgwood's "Storm Windshield Cleaner").

Heating Furnace by Alice Parker

Alice Parker invented and patented the gas heating furnace in 1919. Her invention was a huge contribution to the world. She brainstormed a concept that would be able to warm up her house and regulate its temperature. The invention was called a heating furnace and its purpose was to provide central heat throughout a building. It solved lots of problems in the houses. Residents in a home no longer had to gather around the fireplace to keep warm. It also made it easier to keep house warm.

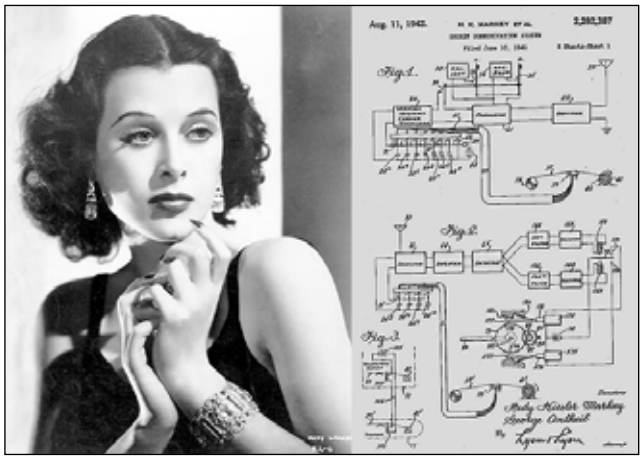
(Source: http://www.nj.com)



(Source: http://media.nj.com)

Wireless transmissions technology by Hedy Lamarr

This Austrian inventor and film actress is a true example of beauty with brains. Along with co-inventor George Anthiel she developed a “Secret Communications System” to help combat the Nazis in World War II. for radio controlling torpedoes. By manipulating radio frequencies at irregular intervals between transmission and reception, the invention formed an unbreakable code to prevent classified messages from being intercepted by enemy personnel. This technology also essentially led technological foundations for Wi-Fi and GPS.



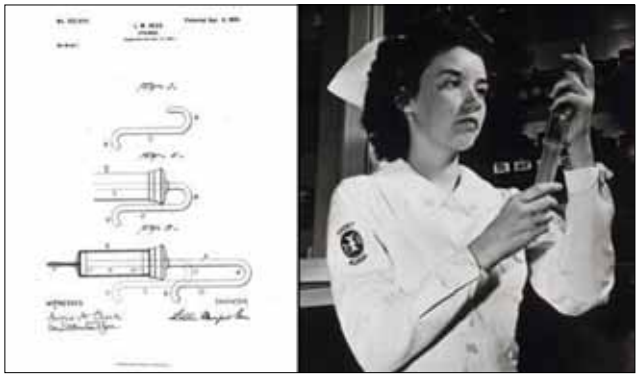
(Source: https://www.funddreamer.com)

Proving she was much more than just another pretty face, Lamarr shattered stereotypes and earned a place among the 20th century's most important women inventors. She truly was a visionary whose technological acumen was far ahead of its time.

The medical syringe by Letitia Geer

The wonders of modern medicine. In 1899, Letitia Geer invented a medical syringe that could be

Remember her the next time your doctor injects you with only one hand.



(Source: http://www.rediff.com)

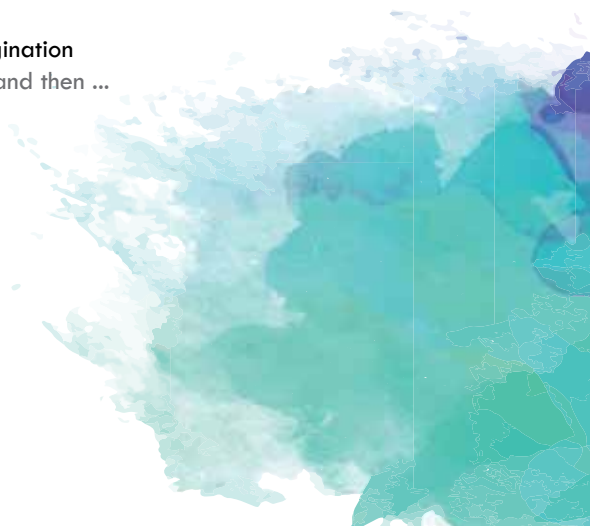
6.
Do you want to know more?

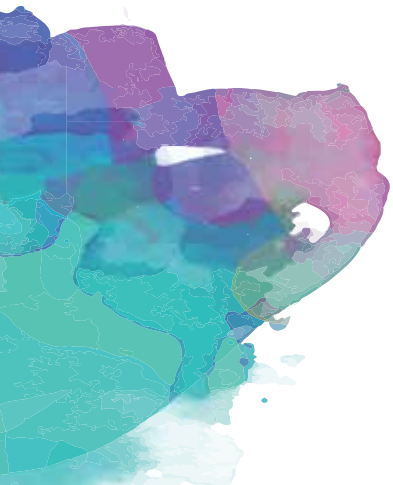
If we have managed to grab your interest in the areas of natural sciences and technology and you want to know more, we suggest that you start researching using the following links to websites. On the websites of individual high schools and faculties, you will be able to find all the necessary information on educational programmes, skills and competences that you may obtain.

Women in Research and Innovation
The Initiative of the European Commission
http://science-girl-thing.eu/sl

Use Google, curiosity and imagination
Start with the 'engineer' keyword and then ...
keep browsing. :)

Women in IT
www.itgirls.rs





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