



# Per vectum

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- Horoscopes for 2021
- Bucketlist items for 2021
- What started off the pandemic

**vectum**  
Econometrics and  
Operations Research

WINTER EDITION • 2020-21



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# WORD OF THE PRESIDENT

Dear fellow members, professors, partners,  
and friends of our association,

I am pleased to address you in our second edition of the quarterly PerVectum magazine of the 2020-2021 academic year – and what a turbulent year it has been so far. Since my last address in the previous PerVectum, the Netherlands and other European countries have seen an alarmingly steep rise in Covid-19 cases and tragic fatalities. This led to the declaration of a nationwide lockdown before the winter holidays. My thoughts and prayers go out to all of you, especially those battling this virus and its afflictions in your own personal lives. I truly hope that our society can beat this pandemic as soon as possible, and I encourage you that our association will play its role in diminishing the spread of this disease.



Like every other aspect of Dutch society, I regret that the pandemic has also infringed upon the work and activities of our study association. In previous academic years, members of Vectum have come to know a vibrant standard of sponsorship from the private sector. These are based on interactive career events which were hosted either at our university facilities in Maastricht or at our sponsor's various office locations. For many of our past members, these career events have played a vital role in taking the first steps into the working world. Unfortunately, this ongoing pandemic has caused too much uncertainty for such events to take place in person. Not only is our association affected, but so are the companies that we regularly cooperate with. From our perspective, the restrictions on non-essential, in-person contact make it infeasible to take the necessary steps to plan and schedule these recruitment events, especially since we can not predict how long this pandemic will still last. As a result, our association has organised its first online career events, including the e-house days with our sponsors Optiver and FlowTraders and an online LinkedIn workshop hosted by Mr Marcel Noordman. Furthermore, our members were invited to participate in other various online events offered by our partners, such as the Women in Data Science webinars hosted by Pipple and a pandemic stress-test hosted by De Nederlandsche Bank. While the atmosphere and efficacy of online events may not properly live up to in-person events, we have experienced them to be suitable and safe alternatives for the meantime.

However, I regret to report that the overwhelming collective response of our partners towards online career activities has been reserved. From the general perspective of our regular sponsors, the overall economic uncertainty caused by the pandemic has forced them to forgo certain costs. Unfortunately, this means that study associations' sponsorship is not a priority for them at this point in time. In addition, the majority of companies have clearly stated that they are not interested in online recruitment events for various reasons that I respect and understand. Instead, the overall preference is to wait until the pandemic is over and then plan these recruitment events once they can certainly happen in person. Moreover, for many companies, the extents of their sponsorship will be exclusively directed towards the Landelijke Econometristendag 2021, where all E&OR study associations in the Netherlands can participate. This will take place entirely online on February 4, 2021. For that, I commend our sister association Kraket at the VU Amsterdam and their LED Committee. Their organisational efforts and preparations have made it possible for the Netherlands' largest E&OR recruitment event to still take place despite these unpredictable circumstances. Nevertheless, as the president of our association, I believe it is important to remain composed and positive in response to difficult times. I wish to impart this attitude onto our fellow members. Therefore, I am pleased to announce that our creative and proactive members within Vectum are working very hard to fill this void of career activities by internally hosting our own cases and challenges, inspired by applications of E&OR in practical situations. Here, successful participants can earn certificates issued by Vectum, which would hopefully benefit selection procedures for internships or entry-level positions. With this in mind, we are still working hard to organise our own events with companies. However, as mentioned, the pandemic makes this difficult, and we are not in a position to guarantee that these can take place before the end of the academic year.

In addition to Vectum's efforts for career development, our social and academic endeavours have been affected by the pandemic as well. Our weekly social activities, which are a cornerstone of Vectum's traditions, shall continue in a contact-free format for the foreseeable future. After almost 10 months since the initial outbreak in the Netherlands, most of us are understandably experiencing "Zoom fatigue", myself included. Nonetheless, we have to be prepared that this pandemic can last well into the remainder of the academic year. Once our local government and the authorities at the SBE deem it acceptable for study associations to meet in person for non-academic purposes, we can carefully transition to in-person social activities again. Until then, I encourage our members to be patient and considerate. I am truly confident that we are ready to do so. Although many of us students may feel young and healthy and not directly threatened by the virus, we must recognise our responsibility within society as a whole. Out of respect towards the essential workers putting themselves at risk to keep our needs satisfied, out of respect towards the medical professionals working tirelessly at nearly full capacity, and out of respect towards those people and their loved ones who are battling their way to recovery, our study association shall remain committed to keeping the spread of the virus as low as possible by reducing our in-person interactions.

However, we likewise remain committed to the social well-being of our members, some of whom are feeling understandably lonely due to this prolonged period of isolation. For me personally, I especially miss being able to interact with our members at our Tuesday activities, which is an aspect of the board year that I was particularly looking forward to. Therefore, we will continue to offer online social activities to give students the opportunity to interact with their peers in a safe environment. Additionally, the brand new Vectum blog allows our members to share their thoughts and stories with their fellow students spread out across the globe.

In spite of this abundance of bad news as a result of the pandemic, I can still report positive developments within our association. First, Vectum will offer our first-ever extra tutorials in the second-year courses Mathematical Statistics and Operations Research. The respective course coordinators Stephan Smeekes and Tjark Vredeveld have been very cooperative and understanding towards these initiatives, and we are grateful for their support. Secondly, our negotiations with SCOPE Maastricht and the SBE Board concerning our legal relationship have made concrete and productive improvements. Our members will be informed about this in the upcoming weeks in preparation for our semi-annual general members assembly. Due to the lockdown, this will take place online on February 9, 2021. I look forward to welcoming you there.

To round off this address, I would like to offer my words of encouragement in the face of this pandemic. If I have learned anything from Covid-19, it has shown me that even we econometricians - who nonetheless look forward to promising job prospects - are not as special as we often like to think we are. Although we work with sophisticated mathematical models that can infer valuable information to firms that are ready to pay for these services, we are not essential in the way that healthcare, warehouses, post, public transportation, groceries, sanitation, and several other industries have shown to be. While we can carry on with our work from the comfort and safety of our homes, other professions do not get that luxury. I have taken this sombre realisation as a lesson in humility that I wish to impart on my fellow members. It is perhaps very typically Filipino for me to take a rather bleak situation and find an optimistic message underneath it all. However, I am confident in you, our members that I am honoured to serve, to make the right choices for the sake of yourselves and those around you. The better we act now, the sooner we can meet again in the future. On that note, I would like to wish you pleasure in reading this edition of the PerVectum. Hopefully, it can briefly take your mind off of your worries.

I look forward to seeing you. Sooner rather than later.

Sincerely yours,

Frederick Hagelstein

President of the 2020-2021 Board of Vectum



## PUMPKIN CARVING

On one lovely Tuesday evening, Vectum decided to gather in an online format to celebrate Halloween in an appropriate manner - carving pumpkins. We could get our own pumpkins or alternatively, pick them up from the Head of Activities.



Regardless, on the 3rd of November, we all got in front of our computers and tried to fight off the dread that came with opening zoom yet again. This time it was for a better reason we told ourselves. Personally, I was doing the event with Fred, the current president, as well as a friend and a past Secretary, Ofek. Having people next to me definitely helped alleviate the zoompression. However, it also meant I would need to step up my pumpkin carving game next to them.

We received instructions from Joshua and Alexander with the goal in mind of having the best pumpkin at the end. Having Ofek and Fred next to me was definitely intimidating, but I tried to keep my spirit up and do the best I can. A part of the process is cleaning the goeey hair inside the pumpkin. Some used spoons; some used their hands; it was all the same, a mess. As it was quite disgusting, Ofek decided he had enough and started cracking jokes as his contribution. After that, we had to choose what to carve and get to work. I chose a heart because I thought spreading love is the best way to go about in this terrible year. Also, I was the most confident in my heart carving abilities. Fred decided to carve the Wu-Tang clan sign on his. The carving was harder than imagined, sticking the knife inside required controlled force and then we had to keep steering it until a pretty shape appears. Some were better than others as always, and Fred was better than me. Thanks to zoom, we could see how other people's work and at the end, we voted for who had the best one. Deservingly Siemen got first place. All I did was spread a little love.



# I saw London, I saw France, I saw someone's underpants

Being the multi-national community we are, a geography quiz should be easy for any of us. For this, we were lucky enough to team up with UNICEF, who graciously helped us out. Many questions were posed, many were answered. In the grand tradition of any Kahoot game, nicknames were posted of varying velocity and decency. As the US election was the talk of the day, of which no current Vectum member had an actual vote in, “Biden4Win” and “Trump4Win” were among the chosen names. The owners of these names remain a mystery, as neither were winners, but both remained on the podium for the majority of the game, probably drawing their enthusiasm from their political viewpoints. Although, I was surprised to see a Trump supporter be so knowledgeable about the world's geography.

Enthusiasm is what you need to do well in this game, it was fast-paced with difficult questions, sometimes trick questions. Humbling for most of us, and almost cruel to be reminded how big the world is while we are having the prime of our lives chocked with a pandemic.

Some of us rose up to the challenge, our very own board member, Edwin, who I shared a team with was very quick and remained on the podium for at least half the game. Unfortunately, he did not win, the Kahoot player with the emoji of an iOS tropical fish as their entire nickname, in fact, won. Their identity, if any, was not revealed during the evening. The reward for beating all others and coming in the top three was a pair of UNICEF branded sunglasses

Upon interviewing participants, the expected Vectum competitiveness shone through, the team of Tobi Breuer and Nhi Nguyen states they were both mainly concerned with staying on the podium at all costs. At the same time, Tobi added “how am I supposed to know that” was a recurring thought for him. I have no doubt though, without need for empirical evidence, everyone enjoyed the quiz. As a community, we are grateful to UNICEF for the collaboration.



# Murder Mystery

It was a quiet Tuesday night in Maastricht. Nobody suspected a thing until an innocent person got brutally murdered. It was the task of Vectum to figure out who had committed this heinous crime. Was it perhaps the deranged scientist or the ghostbuster who is always at the wrong place at the wrong time. Of course, it wouldn't be the carnivorous walking and talking plant, that would be too obvious, or would it?

Like any other murder mystery event, the people of Vectum got their characters before the event to prepare their acting skills and dress accordingly. I was the all so helpful Seymour Plants, the flower shop assistant, and maybe more importantly, the Venus Fly Trap manager. It was my aim to defend the flesh-eating plant and prove its innocence, even though after a while, I doubted whether I was on the right side of history. Through some tough discussions and after accusing many people on different bases it became clear to me that the Greek chorus girl, who also goes by the name of Roxette Crystal (Izzy), had to be the murderer. And that she had carefully laid out a plan, by placing the body near the carnivorous plant it would seem that the innocent creature had eaten Jacqueline Hyde. But nothing is as it seems.

I was blinded by the love I had for Audrey (Sharon), and I was deceived. In the end, it became clear that Audrey had killed the poor Jacqueline in a vengeful attack seeking bitter revenge. As apparently, Jacqueline had indirectly killed Audrey's parents by evicting them from their house and into poverty, which eventually led to their death.

Luckily some people did find out who the killer was and lady justice used the sweet hammer of righteousness to lock Audrey up. And of course what is a murder mystery without some winners. We had a few categories, and the first one "Best in Character", was won by Asem. The second category was "Most Honest" and was won by Marie. The most untrustworthy was Siemen, and finally, the best detective was Paulina. I hope everyone enjoyed this event as much as I did! Cheers!





# *Research Lecture*

## with Bas Dietzenbacher

### Topics in Mathematical Economics

Research lectures grant students the opportunity to get to know what PhD students and professors are researching at the time, or what they have researched before. It also grants the opportunity to get inspired by various fields, such as actuarial sciences, econometrics and operations research. This research lecture was in the field of financial markets, and it was given by Bas Dietzenbacher.

The research lecture's main topic was to investigate what to do after a company has gone bankrupt, but it does not have sufficient funds to satisfy all the claimants. Especially during a world crisis, it is important to know what to do and what is expected from a company when its days are up. Bas suggests using the axiomatic method that compares several allocation rules based on the different properties of the claimants.

Bas studied both his bachelor and master in econometrics and operations research in Tilburg, where he was also actively involved in the study association Asset as a chairman for the international business tour. After his studies, he went on following a PhD path also at Tilburg. However, he went on to Saint Petersburg to become a research fellow for 2 years at the International Laboratory of Game Theory and Decision Making. And now finally at the start of this academic year, he joined Maastricht University! Besides his academic career, he is actively involved at the Phillips Harmony Orchestra in Eindhoven, where he is also the chairman

We would like to thank Bas Dietzenbacher for his willingness and enthusiasm to host this guest lecture, and if you have any questions to ask him about his research topic, or the PhD process in general, you can ask us for his contact details.

Again thank you Bas for giving the educative lecture and welcome to the SBE!





# DRINKING GAME NIGHT!



November 24th marked the day that Vectum altered its state of mind. Using wicked combinations of chemical concoctions, all ingredients were there for a great night. Through the comfort of our zoom boxes, stories of Oktoberfests and Preuv night were in bright memory. This night, we were tasked with consuming all the beers and wines originally bought for the Beer & Wine tasting. Though it was a shame that Jim was not there to enlighten us with all kinds of made-up stories about the craft beers, and shout at the chauvinists at the wine-side of the table, the quality of the beers was nothing short of to write home about.

With some friends over (but not over the legal limit of three!), the party was on. Some attempts at virtual beer pong and other drinking games were made, and with other party games, the chaos and fun ensued. While some were just enjoying their drinks, disgust followed after some fellas sang “Brabant” by Guus Meeuwis a bit too extravagantly. Personally, I thought this anthem was perfectly in its place, but looking back at the video evidence, it might have been a tad enthusiastic.

Anyway. Seeing all of the Vectum peeps together brought a smile to our faces. Hopefully, it’s a preview of the grandiose Preuv nights at the end of this academic year. Oh, to end the night blissfully shouting our hearts out to Piano Man... But for now, we will do with the creative events proposed by Alexander and his amazing activities committee.

Drinking night ended with a deranged group of four (guilty) begging for the attention of the last other remaining group on the zoom call. All in all, a great success. Love to see you all in the next activity <3

Cheers!

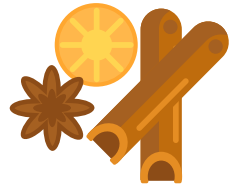
A red rectangular poster with rounded corners. At the top, the text "Drinking Game Night" is written in a white serif font. Below the text is a square image showing two hands clinking beer bottles against a sunset background. To the right of the image is a vertical white line. At the bottom right, the text "Tuesday 24 November", "19:30 CET", and "On Zoom" is written in a white sans-serif font.

Drinking Game  
Night



Tuesday 24 November  
19:30 CET  
On Zoom

# Pepernoten Workshop



Sinterklaas was around the corner, and the joyful atmosphere was all around Maastricht. Pepernoten can be considered as one of the most interesting parts of the festive season in The Netherlands. Although you can easily find a variety of pepernoten in the grocery stores, it is always much cosier and more “gezellig” to make them ourselves. Knowing that, on the first day of December, Joshua and Aisja hosted a workshop where we were guided in making some pepernoten on our own. Before the day of the event, a link for a zoom call was sent to us as usual. Making and enjoying these nice pepernoten by myself would have been boring, so Marie, Tobi and I decided to join the workshop together.

The workshop started at 7 as many other activities do. Despite upcoming exams, everyone there was so excited to start making (maybe their first) pepernoten. First, Aisja showed us the recipe for the classic version. Although it was simple and easy, we still made a little bit of a mess but thanks to Aisja and her impierceable patience, everything was good at the end. Baking is always so much fun, and at some points, we were acting like small children in the kitchen. We could barely wait until everything baked properly and kept eating the raw dough (it was so good though). When the first batch of cookies was done, we were so excited that we finished everything in 5 minutes. Then, in order to be cool kids, Josh-ua decided to add another layer of deliciousness with the chocolate covering. It was absolutely amazing. After finishing all of those pepernoten, we were recharged and energetic enough to dance along to the Christmas music. Thank you Aisja and Joshua for hosting the lovely event and making the last activity in period 2 became a lovely night.



# Vectum meets Ton Storcken

*Ton Storcken, a man with many talents and a man who perhaps has the biggest heart at Maastricht University. Regularly during his classes, he will refer to lessons he has learnt throughout his life and tries to reflect on it and pass the knowledge back on to us. We, the students, always carefully listen to what he has to say, especially when he brings his wife into the conversation. But what do we really know about this man? That is what the PR committee wanted to investigate. Join us on a journey through the mind of Ton.*



First a few basic facts about Ton. He was born in 1955, making him 65 years old, which would also mean that he is in his final year of teaching. He grew up in a close-by, picturesque village called Geleen, and he would therefore visit Maastricht often when he was still a child. Especially to see the religious sites of Maastricht, such as the Maria Church and the Sint Servaas. He mentions that Maastricht has a lovely ambience and that he went shopping in Maastricht when he was smaller. As he went to Maastricht often we asked what his favourite spot is in Maastricht; he swiftly replied that he likes looking over the Maas from Wyck. Whenever possible, he likes to walk near the city walls thinking about what the Romans had left behind in Maastricht. He mentions that through the passage of time, he does fewer things in Maastricht, where he would normally go out for dinner is now replaced by home-cooked meals and caring for his two lovely children, which he often calls back on by saying he has completed a “set”, meaning he has both a girl and a boy.

Nowadays he calls Eindhoven his home, where he lives with his now second wife. When asked about his current hobbies, he wittily replied with “What is free time?”, but he quickly reassures me that he has plenty of stuff to do and adds that he has many hobbies, including keeping plants, caring for animals (He has turtles and tortoises that he’s been taking care for 50 years!) and playing chess. He tried many things in his life and the hobbies he has now stuck with him the most. Such as woodworking, where he mentions that working with his hands was an important factor within his family. What interests him the most about woodworking is that you get to figure out how things work and how it's built up, he humbly says that he has built everything apart from staircases and heavy constructions and most decorations in his house he has made from scratch.

In the evenings, after I had a class from Ton, I would often wonder if Ton would approve of what I was going to eat. As he often mentions at the end of class, especially in the late afternoon, we should go home and have a good meal. We took this interview as an opportune moment to ask him what he means with this expression. He mentions the obvious that we should have some fresh vegetables and meat or fish. But what stuck with me was him saying that “What you do with your head is reflected by what you are eating”, after this wise quote he adds that he likes to close off the class with a joke and this often makes the students happy, so it’s sort of his go-to. However, Ton does bring out a warning; he says that we should be cautious with green beans. Apparently, at the beginning of his marriage, his wife had served him green beans for over a month to see how far she could go with Ton’s limits. However, to her surprise, Ton didn’t complain once, but as a side-effect, both he and his wife now do not have such an appetite for green beans anymore.

*“What you do with your head,  
is reflected by what you eat”*

Regarding his academic career, he said that the subject he enjoys teaching the most is social choice theory. Which is quite obvious as he has researched it for the majority of his life, he adds that restricted domains is his favourite topic to talk about in social choice theory. In a nutshell, this concept means that when everyone has a certain preference that is single-peaked, you can find out which allocation is best regarding a certain set of allocation rules. An instance of this would be regulating a thermostat in a room with many people where everyone has a certain preference, how can you then decide what temperature is best? Of course, this can bleed into many things, such as politics and planning. We suggest to follow his course if you want to figure more about this concept, or you can always approach me or Ton himself if you are interested.

In the first week of social choice theory, you get to see the mathematical execution of a democracy, simply put, the majority decides what will happen. Therefore, we asked his opinion about the mathematical side of different democracies around the world. He started laughing, saying that democracy isn’t just based on a mathematical rule and that it is a bit more nuanced and that every country has its own way of deciding. He added that we should not think that there is a best way, he even doubts that there is a best. Ton touches upon what he taught us in the first part of the course, about Arrow’s Impossibility Theorem, which states that the only preference rule that is Pareto optimal and independent of irrelevant alternatives is a dictatorship, meaning that a democracy wouldn’t be possible if more than three choices were available and you would want a fair and optimal way of allocating an individual's preference. He adds, that once people read Arrow’s Theorem, they say that democracies are not possible, Ton doubts the validity of that statement. He mentions that a democracy is more than just a rule; it has different meanings across the world.

In the Netherlands, we call ourselves a democracy; the USA does so as well. Still, we have fundamentally different rules on how to govern a country, so are we then true democracies? Of course, we have great resemblances like free speech. But as the USA is a big country, way bigger than the Netherlands, they have to have their own system. He adds, if you try and explain how our democracy works to an American, they would be baffled and ask who would be responsible for when something goes wrong in your district.

He sums up that it is hard to model a democracy, there is so much more, there is human interaction and of course separation of powers, to enforce the law, to have the law and to build the law. These things that make up a democracy are hard, or even impossible, to form into a decision rule, and that is why we don't go over it in class. He states, we only discuss collective decision rules, and that these rules don't care about who will run the country or who will win the next Eurovision song contest. During his class, it is more important to understand these rules yourself.

He believes that everyone has a voice in a democracy, and even when people are in the minority, their voices can still be heard. Of course, a majority has to decide at some point, but the issues that are among the people must be resolved peacefully and fairly.

I ask him about his opinions on the past election in the USA. The most striking point he found is that you have a tremendous problem if people no longer understand each other. He says that his beliefs are different from Trump's and that Trump-inspired people in a way which will have an impact on the country for years to come. Additionally, he mentions that Trump is a businessman in nature and that he dealt with America's problems as if it were a business, be that what you make of it.

*"I didn't want to be rich, I wanted to be happy"*

He adds that he believes in a united Europe, but of course with its own boundaries. He adds that he wouldn't mind if the Netherlands has a few more football goals than Germany, for example. Going back to the point he adds that if there is a crisis, like a natural disaster, in Europe, we should be able to support each other. He believes that the people in Europe, or around the world for that matter, are all usual people, we all want to eat, drink, want to let our children grow, and don't quarrel with someone on the other side of the world. If there is a war between countries, let the leaders fight it out. He finds it hard to understand why people fight about unnecessary things; he adds that he doesn't want to be rich, that was not his purpose; he wants to be happy. His father always told him that you can only eat till your stomach is filled, why should you need more? He adds that you can make people as crazy as you want them to be, but you can always de-escalate. If you want to do bad, you can do, but you don't need to.

We quickly went over his thoughts about the corona crisis. He believes that if you have one system set up from the beginning, you should stick with it. He doubts that the people who decided on the rules back in the first lockdown considered all the outcomes; he does recognise it is difficult. Still, he would want to know if they had carefully considered the vast range of options available.

After all this talk about all the world's ongoing crises, we decided to switch the tone. If you ever had a class with Ton, you might have noticed that he regularly talks about his wife. So we asked him how we ourselves can find a loving partner. He started by saying that he found his first late wife during his studies, they started talking after seeing each other often in the regular crowd of people at the university. His second wife, however, he found on the internet. He finds that the internet is the perfect way for direct communication, and he used this opportunity to go out of his regular way. He namely found her while he was living in Echt and she was living in The Hague. Now don't be thinking he was on Tinder swiping left and right. He was on a website that required him to take a small psychological test to see who would match best with him. For us, he suggests that there are a lot of different ways of meeting people, but he recommends that we should look at the inner parts of people first because that is all that matters in the end. His mother-in-law used to say that you can't eat from a nice plate; otherwise, it won't be nice anymore. In the end, character matters the most. The computer can make the first step easier by creating a communication line over which you can figure out personalities and common interests.

*"From a nice plate you can't eat ... otherwise it's not nice anymore"*

This was our quick view in the mind of Ton. Of course, Ton is a man with many other great qualities and opinions, but we hope you have learned something new from this interview. Like how to appreciate the people around us by listening to them or as the end suggests, how to find a loving partner. If you have any questions or want to continue discussing the topics treated, you can always reach out to Ton or me!



# Horoscopes for 2021

## CAPRICORN

Healing Jupiter is in Aquarius, and in your 2nd House of Finances for most of the year, blessing you with financial blessings. In particular, money-making opportunities that you shut the door on in the past, either to please a partner or because you lacked the self-confidence at the time, may come back around success will come from pureness of thought and pureness of awareness. Be pure, maybe abstain from physical pleasures and see if it brings you inner peace. If you are thinking of making a trip to see your friends, you should. They miss you.

## *Aquarius*

Your 2021 Aquarius education horoscope says that you are known to be intelligent and the one who loves to learn new skills and language. Learning and improving one's knowledge is of prime importance to you. Students who are preparing for their exams will succeed in their endeavours especially in the month of April. This success of yours will lead to a rise in your courage, self-confidence and might.

In 2021, you should also pay more attention to your health, both mental and physical. You should give them the amount of attention they deserve.

## Pisces

This year is good for you, you will either spend it with a great love for or meet a great love. Don't worry; this love could be anything or anyone. Let yourself feel love for yourself. The greatest love you will know is one for yourself, its the most important relationship and working on it helps all others. You are a kind, wonderful person, or maybe you're not. Either way, love yourself

## SAGITTARIUS

The smartest and prettiest of all the signs. Going far and wide in life and will die happy. This year will be nothing but success and wealth for you. You won't meet the love of your life this year because you've already met them, it's you. Regardless of what your parents tell you, you don't need to worry about having a baby too soon. Just live your life; maybe take a trip to the states this year. This chaos over there will match the chaos inside you. It will feel like being in the ocean



# Horoscopes for 2021

## *Aries*

At this time, your power and might will enhance, so as your intellectual power. This will help you attain success in every endeavour of your academic life, because this whole year, Saturn will be sitting in the tenth house of your zodiac sign, and this position of Saturn will help you bear sweet fruits of the hard work done in the past. Along with this, in the middle of the year, between September 6 and October 22, the red planet Mars will also be positioned in the sixth house of your zodiac sign. With this, the students preparing for competitive examinations will get tremendous success in their efforts.

## TAURUS

Analysing the placement of planets, we can say that from 6 September to 2 October and then from 22 October till 5 December, students are most likely to gain favourable outcomes if appearing in competitive exams. Those who wish to pursue further studies abroad can get good news between September and October. Hence, they will be required to work harder and put in efforts in this direction.

## GEMINI

You are the sassiest of all the signs. This will be a fun and peaceful year for you. A recent feminine influence on your life will only bring positive outcomes. If you find you have an affinity for a certain Cancer, you should confess and live happy for the rest of your days. Looking at the placement of planets, the transit of Jupiter will prove to be favourable for you. Students who wish to get admitted into a foreign university or college can get good news in the month of January. Also, those who wish to pursue higher education will gain better results this year. Overall, the year 2021 will bring major changes in the lives of students

## CANCER

Cancer is the sexiest sign and has a bright future ahead of them. They will likely or have taken a board position in your time in Vectum. Probably need a haircut. Your best chance for love is to confess your feelings to a certain Gemini you are particularly close to for students pursuing higher education, the time before April and from September till November will be auspicious. During this time, you will score good marks in every exam and achieve partial success. All those students who are planning to go abroad to pursue higher education are likely to get their wishes fulfilled in the duration starting from the early months of this year till mid-May to July. Try to avoid dairy food types. Not good for you

# Horoscopes for 2021

## Leo

Students pursuing higher education will have to work harder this year in 2021, and at the same time, if students are willing to go abroad, they may feel dis-appointed this year. In such a situation, you will have to remain patient, keep your spirits high and keep working hard to fulfil your dreams. All those students of Leo zodiac sign who are using any kind of shortcut in their academic life should restrict themselves and remain careful this year. Otherwise, they can get themselves in big trouble due to some mistakes, which will tarnish their image. Overall, this year will be slightly more favourable than expected for students in 2021

## Virgo

You probably felt like 2020 just wasn't that fun, thanks to Saturn inhibiting your fifth house of creativity and joy. However, in 2021, darkness will lift and you will blossom this year.

Virgo students who are preparing for any competitive exam will attain success, but for that, you will need to work hard from the very beginning. In 2021, you will encounter numerous opportunities to succeed. Therefore, don't hesitate to try new things and step out of your comfort zone.

## LIBRA

Even in the field of higher education, students will get good results. Also, all the Libra students who are preparing for any competitive exams are most likely to be favoured by luck. However, for this, you have to keep yourself focused and keep your ego at bay. This is your year. The stars are all aligned in your favour, this year you will meet the person you are meant to share the rest of your life with. Go for a long walk on a day beginning with T, and you will meet this person. This person is smart, charming and likes the mornings. The rest of the month will be spent in ecstasy.

## SCORPIO

You will get more than what you have expected this year. Also, the month of January, April and September seem best for students who wish to pursue education abroad. Overall, the year 2021 is expected to bring favourable results for students of Scorpio zodiac sign. Scorpions are able to take care of themselves and your future is bright.

# BUCKETLIST ITEMS

We are now in period 3 of the academic year 2020-2021, which means that for some of us, our time in Maastricht is slowly coming to an end. As many people said, student life is the best time of your life, we – PR committee, decided to create a bucket list containing things we recommend in order to fulfil your student life here. However, this list is only based on our own experience, and there are still so many cool things that are not mentioned in the list. If you have any other suggestion, don't hesitate to send us via [secretary@scope-vectum.nl](mailto:secretary@scope-vectum.nl)

## 1. Take a walk around Maastricht.

Compared to other cities, Maastricht is relatively small and therefore, everything is accessible by foot. Some of you who joined the city game in May 2019 may notice that there are so many hidden corners in Maastricht that cannot be easily seen if you do not pay attention. Maastricht has so many “Instagram-able” places and least explored area. If you have a free afternoon, I strongly suggest taking a walk around our lovely city, enjoying the fresh air and exploring Maastricht. Moreover, at the end of November, Christmas lights are hung up in the city centre, and the city will be full of lights, which always gives me a cosy and festive vibe.

## 2. Try real vlaai at Mathieu Hermans

I bet you have heard at least once that Limburgse vlaai is sooooo good. Vlaai is a type of pie filled with (seasonal) fruits such as strawberries, cherries and apricots. If you have not tried any piece of vlaai, your Maastricht experience can be considered as incomplete. It is not hard to find a bakery that sells vlaai. However, in my opinion, and in many others' opinions as well, Mathieu Hermans has the best vlaai in town. The vlaai here is said to be “the harmonious combination of crumbly almond-based crust and wonderfully executed fillings”. The bakery has been open since 1936, and everything here is freshly baked. There is always a queue standing outside, waiting to have the newly made pastry before the bakery opens in the morning. Address: Zakstraat 9, 6211PS, Maastricht



### 3. Join at least one Inkom party

Inkom is the general introduction week in Maastricht for all new students, which normally occur during the third week of August. Under the normal circumstances, there are a lot of parties (both free and paid) organized during the whole week. You can meet many new people here, and one of my friends said that the best party she went to during her time in Maastricht was the Foam party during the Inkom week. If you are a second(+) year student, you can still join most of these parties. However, in that case, you should look at the program booklet for more information. Unfortunately, due to the Corona measurements, we did not have a normal Inkom week in 2020. Nevertheless, the online version was still fun enough, and people still enjoyed their Inkom week.



### 4. Go hiking in Sint Pietersberg

Sint Pietersberg is located on the south side of the city. This is one of the most famous hiking spots in Maastricht. On top of the mountain is Fort Sint Pieter. The fort dates from around 1700 and is still largely intact. Thanks to the unique climate here, Sint Pietersberg is also the paradise of bats, butterflies and owls. According to their website, there are 7 starting points with 20 picturesque landscapes to easily find a suitable route for you.



### 5. Try to get a 10 for at least one test

This may sound a little bit nerdy and studious, but it is undeniable that having a 10 for a test makes us feel so great. It may sound challenging and probably impossible to get a 10, but you never know if you never try. Even when you cannot get a 10 at the end, you won't regret it since you have tried your best and I believe the result will still be worth your effort. We will also provide you with some practical tips for studying more effectively in the blog, so don't forget to check our blog regularly.

### 6. Have a picnic in the city park

During the summertime, the city park is usually full of people having a picnic there. The park is located in the city centre, which makes it easily accessible. There are some beautiful sculptures and a romantic small lake. The old city wall there is also students' favourite spot for a short break after studying sessions. Just keep in mind that before leaving, we should all clean the place and throw the trash away to keep the park nice and other people can also enjoy their time there.



### 7. Go out (Fessa, FM, ...)

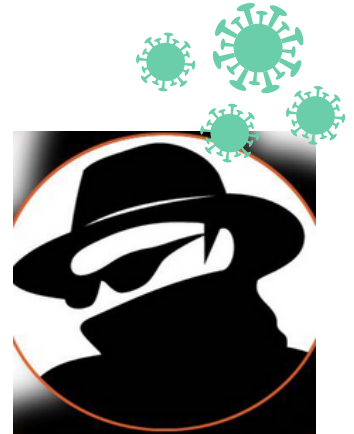
Students love going out, we cannot deny that. During the normal time, clubs and bars are usually packed during nighttime. There is a variety of choices for you to choose, but the most mentioned are these clubs on Boschstraat. Under the special circumstances now when we have to follow the Corona measurements, these clubs are temporarily closed, unfortunately.

# WHAT STARTED OFF THE PANDEMIC?



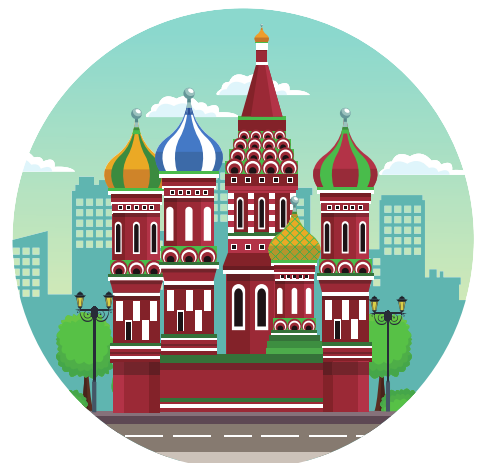
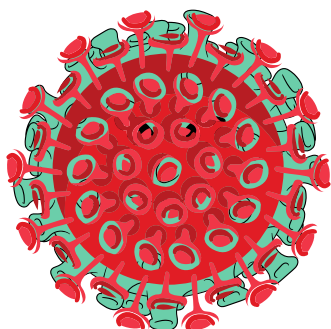
! This story contains false facts and is purely made for satirical purposes

Everyone is wondering, what caused this novel coronavirus that took over our lives in 2020? Did it come from consuming bats like most commonly assumed, is it the work of some wicked laboratory in some remote place, or is there another explanation? The PR committee put their investigative hats on and tried to find what's going on. We managed to construct our own theory, found in the most remarkable way.



There's no way a couple of Econometrics students could figure it all out as many smarter and more knowledgeable than us have failed. Yet there were steps we could take that would lead us closer to the truth. One was getting more comprehensive data than that the public has access to. Another is just any secret documents we could get our hands-on. That required connections that even IB students can't boast of having, however, through pure luck alone, a couple of months prior one of the members were getting their birth chart read by someone they found on a random astrology forum, a girl who later revealed herself to be a very talented hacker. She herself was dubious of the coronavirus's supposed origins and promised to help us if and only if we came to visit her in Moscow as to her, that was the safest bet.

When we got there, we were detained by the police on the pretext that we didn't have negative covid-19 test results. We didn't know those were required and we would have gladly made up for the mistake if given a chance. Instead, we were required to leave Russia even though no airline would have us, which left us travelling on the back of delivery trucks.



On the way back while passing through Kiev, we decided to take a detour and find our way to Chernobyl. After all, it was already 2020; the world was falling apart; we were going back feeling even more defeated, so we didn't see anything wrong with a little bit of radiation. Because up to that point we were using delivery trucks which wouldn't go anywhere near the area, we were forced to go by foot. Thankfully, midway we found a random horse ranch sitting comfortably next to the road. We stopped for a bit of a chat as one of our members is very enthusiastic about meeting new people and trying to speak their language. Through him, we learned that this ranch had been in fact taking care of Putin's horses up until Ukraine severed ties with Russia. After that, locals could visit and ride the horses for a small sum. Through that member's charisma, we managed to convince the owner to lend us the horses so we could visit Chernobyl easier. We had no plans of returning those horses.

Finally, in Chernobyl, we felt more at peace than during the whole of 2020. There was a beauty in the desolation, and we hoped someone else would also appreciate our destruction after we disappear. More importantly, however, in one of the buildings, we found a bats nest. These particular ones had two sets of wings which fascinated us to such an extent we decided we wanted to take them back to Maastricht. Maybe we could find a lab that would be willing to study them, what if something similar was what caused the outbreak in Wuhan, we reasoned.

The plan was going back by horse until we reached Kiev, using the old method of riding at the back of delivery trucks until we got to Maastricht. It all went to plan, apart from one small detail. The horses would not have us, they hated the bats we captured, and when we detached the reigns from the post that was holding them, they bolted far into the distance. Hence, given the circumstances, there was no other way to feed ourselves besides starting a fire and using the only meat that we could find... the bat meat. We are not proud of eating Chernobyl bats, but starving is not how we wanted to go. They definitely didn't taste bad, and as each of them had two sets of wings, it satiated us for days.

Surprisingly, or not so surprisingly, 3 of us fell sick 3 days after. What was interesting, however, was how close to covid-19 the symptoms were. The flu, a bad dry cough and the inability to talk about anything else but the sickness. Don't worry, we all felt better in less than a week, after safely quarantining ourselves when returning to Maastricht. A month after, we heard of a new mutation going around. Maybe corona came from the Chernobyl bats who migrated to Wuhan? Questions, scientists to this day have no answer to...







# MEME PAGE

## Preping a VAR model



<b>Me peeling potatoes</b>	<b>My mum peeling potatoes</b>
$\sum_{k=1}^n f(x_k) \cdot \Delta x$	$\int f(x) dx$



Rachel Lander  
@hip\_fun\_mathgrl

Why is it Q-anon when they not rational

6:55 AM · 1/12/21 · Twitter for iPhone

...



"you have to respect other people's opinions"

their opinion:

$$(a + b)^2 = a^2 + b^2$$

$$\frac{d}{dx}(e^x) = x \cdot e^{x-1}$$