WithinUS

Students who have ended their third year ultimately have to decide whether they wish to embark on their honours thesis or do other level 4 modules in lieu. In this section, we find out more about the Honours Thesis from the Professors’ perspectives as well as students who have already travelled this path.

Introducing the Professors from NUS Department of Economics...

Associate Professor Chia Ngee Choon

Deputy Head (Teaching)

NUS Department of Economics

Research Interests: Pension economics, public finance, fiscal management

A/P Chia Ngee Choon is one of the Department’s recipient of the NUS Faculty Excellent Teacher for 2005, 2006, 2009 and 2010. She has taught Principles of Economics to freshmen and Public Finance at both undergraduate and graduate levels. She has also supervised many award-winning theses, such as the Ministry of Trade and Industry Best Thesis Award and the Tsao Foundation Award for Best Thesis in Ageing.

A/P Chia has been commended by students for her use of familiar examples and case studies which helped them to internalize the knowledge of economics. A/P Chia often acknowledges her students as the “Sesame Street generation” - who learns best while being entertained. She recounts how these students learn their ABCs and 123s from animated alphabets and letters flying in and out in the accompaniment of catchy tunes. Thus she refrains from using publisher-provided powerpoint slides, but prepares her own animated slides so that graphs are drawn live in class. A/P Chia is an advocate of using projects as a mode of assessment. She guides the students to ask questions and tackle the issues. Students are required to present their projects in class. In doing so, they learn to communicate and articulate economic thinking. Project work thus develops and harnesses students’ creativity and imagination; encourages them to learn through shared experiences and learns to articulate the economic thinking.

As Deputy Head for teaching and the undergraduate director of the department of Economics, A/P Chia, together with the HT and ISM Committee, is instrumental in streamlining and designing the new grading system for HT and ISM. Some of her thoughts are shared below:

What is your advice for students taking the Honours Thesis?

A/P Chia: In order to obtain First Class Honours, students must achieve a CAP of 4.5 or higher AND at least an ‘A’ in the Honours Thesis (HT). The HT is now accorded 3 modules and is worth 15 modular credits. It is thus expected that students allocate proportionately sufficient time on it. On average, most honours year students will do four modules per semester, or an equivalent of 20 modular credits and typically most will work on the HT in semester 2, together with another EC module. In that
case, you should expect HT to take up about three quarters of your workload during that semester.

The challenge of doing a good HT is, firstly, the choice of the research topic. The topic must be well thought-out, meaningful and challenging. Most students struggle with this. In fact, even though you plan on working on the HT in Semester 2, you are encouraged to start thinking in Semester 1. I always give students this analogy. When you do a coursework, the expectation and syllabus are communicated to you clearly by your prof. It’s as if you are brought to a forest. The path to get out of the forest is shown to you and all you need to do is to get out of the forest. Thus for coursework, all you need to do is just to work on it with due diligence. However, for HT, you are led to a forest, no path is shown to you; and you have to figure the way out. This requires more than diligence, you need to be creative, pro-active besides being diligent and tenacious.

How to go about choosing a topic? You must learn to ask questions. In most of your students’ experience, the profs are the ones who set the questions. Now, you have to ask your own questions!

You can also do two things to help yourself find a topic. First, read some of the good HTs from the library collection. Second, you could browse the department’s website to find out what are the research interests of the faculty. Read up some of the papers and see if that interest you as well. Indeed, the choice of research topic sometimes goes hand in hand with the choice of a supervisor.

Secondly while a good HT would have critically evaluated the existing literature, it is not merely a summary of literature. There must be evidence of problem solving, applications of economic methodologies and thorough economic investigations. You must demonstrate ability to apply economic knowledge to your question. The findings must be well analyzed, evaluated and interpreted.

Thirdly, a HT affords you an opportunity to present your economic thinking in a 40 page report. The written work must be concise, well-organised; easy to understand and ideas must flow well. Use simple English. Care should be exercised in the presentation of tables and figures including the bibliography.

Finally, to encourage our graduating students to learn how to present and articulate their economic thoughts, HT assessment includes the component of oral presentation. The 30-minute oral presentation is scheduled during the reading week. The two assessors will be present in the oral presentation and you are expected to defend your thesis (motivations, methodologies, findings and analyses) without your supervisor. You need to learn how to organize your slides to impress your examiners given the time constraint.

The table below displays the weights for the different components of the HT assessment:

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<td>Continuous Assessment</td>
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<td>Oral Presentation</td>
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<td>Written Report</td>
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What is your advice for students taking the independent study module (ISM)?

A/P Chia: Like the honours thesis, students must be able to gauge the workload and put in sufficient amount of time and work into their ISM. They should do their work consistently and use the module workload as a gauge of the amount of time that they should spend on it. Contrary to popular belief, the ISM should not be a blatant summary or literature review, but a well thought out piece of work that displays thinking and careful research.

In the past, ISM is assessed by the supervisor only. Under the revised assessment, ISM report will now be graded by the supervisor and another assessor. Oral presentation is not required.

The following table displays the weights for the supervisor and the assessor.

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<th>Component</th>
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<td>Written Report</td>
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Total | 20 | 80 |
Dr Jessica Pan

What are your research interests, and why?

Dr Pan: My research interests are primarily in the field of labor economics with a particular focus on gender, immigration and education. Most of my work centers around empirical data analysis which utilizes large datasets and statistical tools. I am particularly drawn to labor economics as it is primarily about people and the choices people make. Labor economics also deals with many issues that are of policy relevance. It is a very broad field that encompasses not only the workings of the labor market, but many other aspects that feed into it such as family, marriage, education, etc. If we think about many of the policy issues that are relevant in Singapore today, most of them have some connection with labor economics.

What do you like about academia?

Dr Pan: Academia is one of the few jobs in the world where you're pretty much free to work on almost anything you like. This is perhaps what I like most about academia - the (relative) freedom to pursue research topics and spend time trying to answer questions that you're interested in. The trickier part is trying to convince people that the question you are interested in is worth studying. Nonetheless, it's great to be in a job that basically pays you to do both - studying what you want to study and teaching what you study.

Have you had any work experience prior to joining academia?

Dr Pan: Nope.

Have you supervised any undergraduates in their independent study modules (ISMs)? If so, do you have any advice for undergraduates who are considering reading an ISM?

Dr Pan: The ISM is a very good opportunity to get a taste of doing actual research. The research process is quite different from taking classes. The main difference is that there are no definite answers. In research, one tries to identify questions worth studying, and then attempt to answer them. Neither the researcher nor the supervisor knows with certainty what the outcome of the research would be. The role of the supervisor is mainly to guide the student on possible ways to tackle the question, but ultimately, the student eventually becomes the expert on the subject. While classes certainly add to one's stock of knowledge needed to do research, the research process requires a different set of skills. Students who are interested in how the research process works should certainly consider doing an ISM.

What is your advice for undergraduates who are considering doing their thesis?

Dr Pan: My main advice for undergraduates thinking about doing an ISM or a thesis is to be curious and to ask questions. Students are often intimidated by the process of trying to find a research topic. A topic need not be something big - in fact, the best topics to work on are something that is specific and answers an interesting puzzle or policy relevant question. In other words, a good question is one that would change the way we think about or understand the world (just slightly is fine!). One need not turn to textbooks or journal articles to find such questions - they can arise out of a natural curiosity about how things work, from reading the newspaper, books, or conversations with friends and family. The important thing is to find a topic you are interested in - something that will keep you excited to work towards an answer for.

Dr Chen Yi-Chun

Have you had any work experience prior to joining academia?
Research interests: Game theory (more specifically, the foundation of solution)

What is your advice to students who plan to take up the honours thesis?

Dr Chen: I believe that a student should choose a topic to work on for his honours thesis if and only if that topic interests him. I often ask my students, “What is your most valuable resource?” My answer is time. You may not feel that this constraint is binding because you young people still have abundant time (i.e., still at an interior point of the constraint set), but this will not always be the case. It is important to treasure your time — what are the implications of this in terms of your honours thesis? It is to work on something only when it truly inspires you and not just something that can give you a good grade. Whatever grade you receive for your honours thesis will not play any significant role in your life; rather, what is important is that during this period of study, you identify your true interest and eventually discover your “true self”. When you do something that truly inspires you, what you do will help you somewhere along your whole life.

Real life (or doing research itself) is never like exams. In life, most of the important questions or challenges you encounter are those you have never seen before. It is important for you to develop skills during your undergraduate training that enables you to deal with various situations. As I mentioned earlier, students often believe that grades are what matter most. But from my experience, it really is not and never will be.

What is your life as an academic like and why did you choose this path?

Dr Chen: I truly appreciate the process of learning and seeing my own ideas grow. I started off my higher education with an undergraduate degree in Accounting, however I realised later that Economics is what I really enjoy studying and what I find interesting. In Economics, you always develop and deepen your understanding of some basic principles which you can easily use as a lens to better understand why people behave in a particular way.

Some noteworthy advice... If you know what you’d like to do in the future, do not be afraid to ask others about their experience. Dare to make mistakes, and be confident. Well-trained economists never find “mistakes” of human beings stupid. Every mistake highlights potential inconsistency between the theory and our intuition, which in turn highlights either an important way that our intuition can go wrong, or the model itself isn’t a good proxy of our reasoning or behaviors. Very importantly, dare to ask and to try!

Introducing the Students...

Chan Zhi Xiong

Could you give us a brief description of your Honours Thesis?

Zhi Xiong: I explored the Singapore petroleum market in detail and tested for collusion among the four petroleum companies present in Singapore.

How did you come to decide on the topic/content for your thesis?

Zhi Xiong: Honestly speaking, my supervisor was the one who sparked off my interest in the petroleum market. I went on to do further research on it and realised there have always been suspicions about the possibility of cartel-like operations in the industry. However, to my knowledge, nobody has tested for it and so I proceeded with this topic for my thesis.

How did you decide which professor to approach for your thesis?

Zhi Xiong: I had always wanted to do something related to industrial organization because it’s interesting to me. When I was taking EC3322 and EC5322 under Dr Eric Fesselmeyer, I realised he is a very kind and helpful professor who’s always willing to help, so I approached him. As my supervisor, he was very patient with me and it was thanks to his frequent advice that I finally managed to complete my honours thesis.

What are the challenges and how did you overcome them?

Zhi Xiong: The main challenge is that it is generally quite difficult to get data related to Singapore. For example, I had to go to the public library almost every day in order to obtain past petrol prices from the Straits Times. Even then, only price changes were recorded and I had to generate the prices myself after that.

What are the things to take note when embarking on this journey?

Zhi Xiong: It is good to approach your professor early. You will be surprised at the rate that professors are being taken up by students!
Is there any other advice you can give regarding the Honours Thesis?

Zhi Xiong: Start early and don’t give up when you get bad results from your regressions! Keep trying and all will turn out well!

Khaw Kaimin

Could you give us a brief description of your Honours Thesis?

Kaimin: My thesis uses micro data on Singaporean students. I use a regression discontinuity (RD) design to investigate whether an extra year of school improves test scores. I then investigated whether a child gains more from school if his parents are more educated.

How did you come to decide on the topic/content for your thesis?

Kaimin: I first spoke to several professors whose area of research I was interested in. After talking to them, I got a sense of what type of research they were interested in supervising. This helped me to narrow down my exploratory research. I eventually settled on Professor Wong Wei Kang as my supervisor.

I wanted to do something behavioural economics related but all my topics were not well defined. So he suggested I find a creative way to apply the regression discontinuity (RD) design. The RD design is basically a novel estimation technique used to solve omitted variable bias (the other more common method we learn in class is IV estimation).

This was around September of 2010. My honour’s thesis was supposed to commence on January of 2011. I spent a long time suggesting many diverse thesis topics; most were rejected as they were either not feasible or not well defined. My inspiration came mainly from reading the daily newspapers.

After many false starts, I started to get quite nervous. My exams had already ended and I had yet to decide on a topic. One day in early December 2010, while I was reading the papers I stumbled upon an article about Singapore’s sterling performance in PISA (2009). PISA, which stands for Programme for International Student Assessment, is an international standardised test that students from many countries take part in. The results were just released the very day the Straits Times article was published.

I recalled Dr Jessica Pan mentioning that one way to get education data was to take them from the website of such international standardised tests. (She said this to me when I barged into her office uninvited just to ask her what education economics was all about. She was nice enough to entertain me 😊).

So I went to the PISA website and found out how to download the data. I realised that I could pull out the Singaporean data. I was elated! There it was; the Singaporean data I had always wanted! I then thought of a creative way to apply the regression discontinuity design using the Singaporean PISA data. I proposed this idea to Prof Wong and it excited him. And so I finally settled on a topic in the middle of December 2010 – just in time to write my proposal.

For my other peers, their journey in finding a topic might be less of a random walk in that the professor sometimes already has a topic that he/she would like you to work on. 😊 That to me is the best case scenario in that you have less anxiety and you expend less effort in finding a suitable topic. However, finding your own topic – of course with a little bit of nudging in the right direction from your supervisor – is more rewarding 🙄.

How did you decide which professor to approach for your thesis?

Kaimin: The answer to this question is actually linked to the previous question. To me, the topic and the supervisor you eventually end up choosing should go hand in hand. If you choose to work on something that is not within your supervisor’s area of expertise, he/she might not be able to give you the specific guidance that you need.

The professor’s working style and the rapport you have with the professor are also important factors to consider. Some professors have a more hands-off approach while others like to get more involved. You have to figure out what kind of researcher you are and choose accordingly.

And of course the professor must be willing to take you as well! They tend to be very busy so you should start approaching them at least one semester before to have an informal chat.

For me, I first asked Professor Chia to supervise me at the start of my 2nd last semester. (My thesis was actually scheduled for my last semester but as I said, you have to start early!) I wanted to do computable general equilibrium (CGE) modelling. CGE
basically entails simulating a real economy using a large series of equations and data from the input-output table. It sounded complex and I thought, well complex would get me a good grade.

However after a few weeks of reading, we both realised that I was neither strong in programming nor in mathematics. It was a bad match for my skill-set as I’m actually the more intuitive and empirical type.

And so I switched supervisors and instead asked Prof Wong Wei Kang to supervise me since he is an empiricist while Prof Chia is more of a theorist. I really thank them both for their exceeding patience with my fickle mindedness.

What are the challenges and how did you overcome them?

Kaimin: For me the hardest part was finding a good topic! I was so determined to write something about Singapore that I would have it no other way. I guess I just got lucky in that I managed to find an untapped Singaporean data set. Praise be to God for answering my prayers!

Since my topic (and supervisor) was a good match with my aptitude and research interests, most of the technical problems I encountered were solved either by reading on my own or consulting Prof Wong as a last resort.

Also, when attempting an empirical paper, results tend to be unexpected and the data might be far from perfect. I had some nice results and some weird results. I just did the best I could and made sure the methodology was sound.

What are the things to take note when embarking on this journey?

Kaimin: Start early. Pursue something you are passionate about. Find a supervisor that matches your working style and research topic. Find a good SPECIFIC topic. Pray often. Research is stochastic. There are many things that are not within your control.

Is there any other advice you can give regarding the Honours Thesis?

Kaimin: 
http://courses.nus.edu.sg/course/ecswong/apprentice.htm

The above is linked from Prof Wong’s homepage. There are some outstanding tips here that will aid you immensely.

Embarking on an Honour’s thesis is one of the most stressful experiences you are ever going to get in Uni life. The workload is high and how well you do affects your class of honours. Nevertheless, for most of us this is going to be the only time in our lives we get to engage in such rigorous research. Stay focused and most importantly, enjoy the research process ☺️ Good luck and God bless!

Tan Yanxi

Could you give us a brief description of your Honours Thesis?

Yanxi: My thesis is titled “Construction of the Singaporean Longevity Index: Methodology and Implications”. It aims to come up with an indicator of retirement costs for Singaporeans retiring at various ages. The procedure involves modelling future bond returns, inflation rates as well as mortality rates and hence requires research and data collation in these aspects.

How did you come to decide on the topic/content for your thesis?

Yanxi: I am a student of the NUS-ANU economics and actuarial studies joint degree programme and I have spent the last two years taking actuarial-related modules in ANU. When I came back for my last semester in NUS, I wanted to work on a topic that would make use of what I have learnt in ANU regarding modelling and longevity risk as well as my economic knowledge from NUS. The actual topic was decided with the help of my professor, who introduced to me some interesting articles and research papers. One of the papers happened to mention an index in Australia which tried to quantify longevity risk and the idea of constructing a similarly useful index locally appealed to me.

How did you decide which professor to approach for your thesis?

Yanxi: This decision was particularly hard, as I had spent the four semesters before my final one away from NUS and was not familiar with most of the professors in the economics department. The actual decision was made with the help of three main sources:

1) Online research via the department website regarding the professors and their specialised fields

2) Asking my friends and seniors regarding their impressions of the professors they have worked with
3) Emailing the professor and asking for his or her availability and advice. I am profoundly grateful to have had Dr Albert Tsui as my supervisor and wish to thank him sincerely for the valuable advice he gave me throughout this learning journey.

What are the challenges and how did you overcome them?

Yanxi: My thesis is made up of different components including bond return modelling, inflation rate modelling and future mortality rates forecasting. Initially, I had to look up the theoretical knowledge in these various fields in order to gain a better understanding of what I was going to do. To conduct the actual modelling, I also needed to obtain past bond returns, inflation and mortality rate data from the relevant authorities and make sure that they are in a usable format. Later on, I realised that in order to process and model the data, I needed to learn how to use statistical programs like Eviews, Matlab and R. There was a new challenge almost every week. To overcome these challenges, I had to stay optimistic, not to be overwhelmed by the workload and have the mentality that as long as I work at a steady pace, the work will be done eventually. Of course, while one should avoid being overly dependent, I could always turn to my supervisor for aid when I am stuck in a rut.

What are the things to take note when embarking on this journey?

Yanxi: At the start, one should have at least a brief idea what you are trying to achieve with this thesis and a timeline or plan of how you are going to work towards your aim. As Dr Tsui told me, the report-writing can always come later. What’s important is to get all the “dirty work” out of the way first, be it data collation and processing, statistically modelling, or the conducting of surveys etc.

It is always better to start work early. Don’t assume that you will always have enough time later on in the semester to complete your work smoothly. Many components of the thesis will take much longer than you think, not forgetting the tests and presentations from other modules which may come around in the later part of the semester.

Is there any other advice you can give regarding the Honours Thesis?

Yanxi: Be ambitious yet pragmatic. Don’t be contented in completing the bare minimum for the thesis. There is almost surely some way in which improvements can be made. However, also make sure that there is enough time on your part aside from other schoolwork or commitments in completing whatever objectives you have set.

For economics students especially, take note of the various macroeconomic and demographic data sources that are already available from the school library, such as CEIC or TREND. There are always friendly librarians around to offer help.

In the actual report writing, take note of the exact format requirements from the department. It is always easier to make the adjustments right from the start rather than editing afterwards.