

Because of the poor work environment that makes me stress and negatively affects my health, I was on significant sick leave within these three net-working months. More specific, I took 100% sick leave on these days, 25 Feb - 01 Mar (5 days), 08 Apr - 12 Apr (5 days), 08 May - 10 May (3 days), 20 May - 24 May (5 days), 28 May - 29 May (2 days). In any case, I significantly and seriously respect my commitments under the individual study plan.

In addition, I have to fulfill my family obligations by taking VAB days, 13 May - 17 May (5 days). Moreover, I also took my standard vacation days from 03 June to 20 June (13 vacation days). The expectations of the three month ISP are not reduced yet even though my supervisors agreed with my 13 vacation days.

In the previous year, all goals in the 3-month ISPs are expected to accomplish within three net-working months regardless of vacation days, specifically, the ISPs in 20180208 - 20181120, 20181121 - 20190221. It means that I am supposed to work continuously to meet the expectations during my vacation days because the workload is the same regardless of vacation days.

I am continuously acting following the goals individual study plan such as writing the 20-page survey, 1DL451 course, basic modeling for discrete optimisation - online course, applied logic course, academic teacher training course, advanced modeling for discrete optimisation - online course, and repository. The evidence is listed as follows.

Although I took significant sick leave from 2018-0313 to 2018-0416, and 2018-0529 to 2018-0630. I accomplished the goals in the ISP, which are basic modeling for discrete optimisation and advanced modeling for discrete optimisation.

**20-page survey:** I seriously revise my survey and keep submitting revised surveys to Justin and Di on these days 2018-1211, 2019-0115, 2019-0123, 2019-0205, 2019-0219, 2019-0304, 2019-0329, 2019-0416, and 2019-0506. I have been trying to address all comments and feedback from my supervisors and sending these changes in details to my supervisors, e.g., a file includes detailed changes such as supervisors' comments, my revision, and the page number. The later revised survey is incrementally better than the previous one.

The first version was submitted on 2018-1211. So far, I still keep working on the survey. On each revision, the feedback has been given very slow. Feedback was given on 2019-0304 for the version submitted on 2019-0219. A revision submitted on 2019-0322 and 0329, until 2019-0416 to get feedback and comments. In addition, the comments are on the handwriting forms, which are not legible and always take more time to ask for clarification. It takes about ten working days to get the comments and feedback from Justin.

In the latest survey on 20190506, I have tried all my best, and seriously addressed all comments and feedback from Di and Justin:

- 1) I explained the key ideas of the reformulation techniques with illustrative examples including implied constraint technique (page 11), symmetry breaking technique, multiple viewpoints techniques, channelling technique (page 12). However, until so far, I have not got any comments and feedbacks from Justin in the latest survey.

- 2) To the best of my English writing skill and my proofread, I have fixed all grammatical and spelling errors. I have revised the presentation of sections after discussing with Justin in the technical meeting.

Due to Justin's business trip, my sick leave, parental leave, and VAB leave, Justin and I did not have any progress meeting since April 26 until so far.

When I began working on the survey, I found 150 papers that are related to the reformulation. It is not possible to understand deeply all 150 papers in such amount of time. I have asked for discussing some papers in the reference that could help me to understand deeper. In the email sending to Justin on 2019-0319, I proposed to have a technical meeting about the survey, logic course – chapter 2, comments on exercises in chapter 1, feedback for the repository, and discuss more the paper that Justin did not have time to discuss with me in the previous meeting. However, due to Justin's business trip to Singapore, we could not have any technical meeting before 2019-0401. Even though there are time limitation (3 working months), significant leave, the large number

of references (150 papers), and lack of support for technical meetings, I significantly and seriously respect my commitments under the individual study plan and make progress with the survey. In order to explain something in enough depth, I do really need support from my technical supervisor to understand a lot of important papers to improve my survey as his expectations.

Regarding the tutorial aspect, I am still working on choosing the suitable examples that could be used to illustrate as many reformulation techniques as possible such as Sudoku and car sequencing. These tutorial examples were discussed with Justin in the technical meeting on 2019-0401, but we could not find yet an example that is generic enough to demonstrate many reformulation techniques.

In the latest survey on 2019-0506, reformulation techniques have been given with examples. I understand that I need help to improve my writing, I have tried all my best to proofread the survey, but it does not mean that I can find all writing errors. I submitted to the revised survey to Justin on 2019-0506; however, so far, I have not yet got any feedback and comments from him.

When I was informed about the support by Sprakverkstad in the meeting on 2019-0306, I immediately made a phone call to book an appointment; however, I could not reach anyone. I have already contacted them again as soon as I got back to work on 2019-0624.

To writing survey goal in the 3-month ISP on 2018-1121, I did submit a 40 pages survey with 150 references in 3 working months with a lot of sick leave, parental leave, and VAB leaves.

I expect that I could get faster feedback and comments in details from my supervisors so that I could accomplish the survey writing as soon as possible.

**Basic modeling for discrete optimisation - online course:** I successfully accomplished the course.

**Advanced modeling for discrete optimisation - online course:** successfully accomplished the course.

**Academic teacher training course:** Under the approval of the head of department on 2018-0919, I took the Academic teacher training course, which began in 2019-0325.

Regarding the goals for the coming effective 3 months, since I have had significant sick leave, parental leave, and VAB leave before due to many reasons including the poor work environment that negatively affect my health and work performance, I firmly believe that I could make more progress with my supervisor's support. When I was back to work on 2019-0625, I immediately emailed Justin to book a technical meeting for explaining the goals written in this ISP. Justin and I did not have any meeting regarding finalising the research goals in this ISP, so I need his explanation so that I could understand clearly to move on. Especially the expected output, which is a 10-page document.

**1DL451 course:** When I was asked to contact Pierre Flener for arranging re-examination, my answer is that I need to consult with the doktorandombud and union. When I got the response from the doktorandombud and union, I immediately contacted with Pierre on 2019-0520. I wish that the evaluation criteria and requirements to pass the course will be given so that I could successfully finish the course.

**Repository:** I sent the link to the repository (<https://github.com/PhucVH888/reformulation-caseStudies>) on 2019-0121. There are not any feedback and comments for the repository. I sent another email on 2019-0311 to remind and notify that I have added more case studies, and I need to discuss this. So far, the repository contains around 100 case studies, but I have not yet got any feedback and comments. I wish that I could get comments and feedback on the repository. As the agreement with Justin in the very beginning, what I have to do with the repository is to find a model, manually identify the implied constraints in the model, eliminate these constraints to produce an original model. Although the agreement is to find one or two models, on 2019-0311, I already put 4 model pair in the repository (<https://github.com/PhucVH888/reformulation->

caseStudies/tree/master/IMPLIED-CONSTRAINT); however, Justin has not yet given feedback and comments. Justin refuses to support me in producing a formal proof using PVS that the reformulation is correct even though I submitted the solutions for all required chapters from the textbooks.

**Applied logic course:** The number of exercises in all 4 chapters is numerous, 95 sub-exercises in total. I asked Justin about the number of exercises to finish in the first place before I agree on anything, Justin promised that I just do some representative exercises in each chapter. Later, for each chapter, Justin asked me to solve 90% (e.g., solve 29/32 exercises in Chapter 1) of exercises except few exercises marking with (\*), which means challenging exercises.

Justin informed me that I would not get any credits for the first two chapters, but he did not inform me that I must do all exercises in the first two chapters. This is an unfair requirement because I spend 10 weeks to work on the logic course, but I just get 7.5 credits.

**Chapter 1:** 15 exercises are equal to 29 sub-exercises (without 3 sub-exercises marked by \*). I submitted all 29 solutions to all 29 sub-exercises to Justin on 2019-0306-0313-0329.

**Chapter 2:** 13 exercises are equal to 22 sub-exercises (without 2 sub-exercises marked by \*). I submitted 5 solutions to Justin on 2019-0417. Since solving exercises in chapter 1 and chapter 2 are not rewarded any credits, so I focus on understanding the knowledge and move on.

**Chapter 3:** 9 exercises are equal to 29 sub-exercises (without 1 sub-exercises marked by \*). I submitted 18 solutions to Justin on 2019-0424. Justin did not seriously evaluate my solutions. I have discussed with Tjark Weber about Justin's feedback; we found that not all solutions are incorrect. Tjark Weber sent an email to Justin regarding his incorrect evaluation on 2019-0624. It turns out that Justin did not understand the basic negation rule, which is the shortcut for the implication rule. So, his comments to all solutions in chapter 3 show that he misunderstood the basic negation rule on page 75, paragraph 3 (topdown) in the textbook.

**Chapter 4:** 10 exercises are equal to 15 sub-exercises. I submitted 7 solutions to Justin on 2019-0503. So far, I have not got any feedback and comments from Justin about my solutions yet.

During the course, I have to ask Justin enormous times in order to know the number of exercises to do. Since there are other tasks that I have to do at the same time, so it is an unrealistic plan to finish all the goals in the ISP within 3 months.

Although the material in the book is on an advanced bachelor or early master level, an expert as Justin could misunderstand the basic negation rule that clearly written in the textbook. Alternatively, maybe for some reasons, Justin did not seriously evaluate my solutions.

After submitting solutions to Justin on 2019-0503, I had sick leave, VAB leaves, and vacation from 2019-0508 until 2019-0624 (Monday). There is no chance for me to book another meeting with Justin to discuss the book and the solution. I have asked Justin for a meeting on 2019-0624; however, he could not arrange any meeting with me although he wrote on his door sign that he would be back to work on 2019-0625. Without fundamental background about applied logic, it is not easy to understand everything in the book by oneself, barely have meetings to discuss with the supervisor. So far, after 1.5 months, Justin has not yet given any feedback and comments for the version of 2019-0503.

The feedback and comments from Justin are too slow, and it is not easy to book a meeting with Justin. The goals and tasks in the previous ISP are unrealistic. Without support from the supervisor, one could not master the material in the book while doing so many goals within 3 months ISP regardless of standard vacation days. I requested Justin several times (2019-0319, 03-29), to support me in doing the formal proof using PVS for one example, car-sequencing. However, Justin refused to have a technical meeting with me (2019-0403).

**My publications:** I spent my weekends to write these papers. These publications are the extension and inline with the 1DL451 course goal, and thesis title in my ISP. I just wonder whether something wrong if a Ph.D. student spends his time at the weekend to continue to extend the goals in his ISP at weekends. At weekends, I extend the results of the course 1DL451 and develop my research plan

from the thesis title in the ISP. Then I submitted these results to conferences. Since my supervisors numerous times refuses to help me in writing papers, so I have to do it at weekends, and I am the sole author. So far, two papers and one poster were accepted.

**Publication #1:** Poster at ETAPS conferences “Towards Efficient Algorithms for Constraint Satisfaction Problems”: this is the result of 1DL451 course final report. **Publication #2:** Paper at CCGRID conference “Towards Efficient Solvers for Optimisation Problems”: this is the result of 1DL451 course final report. **Publication #3:** Paper at ICAC conference “Machine-Assisted Reformulation for MiniZinc”: this paper is about the research plan which is written in my current ISP.

**ISP-2019-0222:** Unrealistic goals because goal 1 (applied logic course) takes 10 weeks, goal 2 (one model pair) takes 2 weeks, vacation takes 2,5 weeks (13 working days), basic teacher training course takes 5 weeks, the head of department approved my application to take the Basic teacher training course, which will be on 2019-0114, or 2019-0204, or 2019-0325 in the email on 2018-0919. In reality, it takes 17.5 weeks to accomplish all these goals. Under this ISP, in total, one must accomplish all 17.5-week goals within 12 weeks. Even though this is the unrealistic ISP, I significantly and seriously respect my commitments under the individual study plan and keep making more progress.

I am open for discussions with my supervisors to support me to make more progress towards my third cycle education.

I wish that I could have a more than 3-month ISP, because it takes a lot of time to prepare all sections such as supervisors' reflections, supervisors' evaluations, student's reflection, ...

I wish that the expectations of the goals and the net working time for the ISPs need to be revised. Because I took 13 vacation days before summer and 16 remaining vacation days in summer time. Totally, 29 vacation days (~1,5 months over 3 months) are for standard vacations.