It is a 4-unit module and is graded on the basis that students should devote approximately 12 * (3+6) = 108 hours of work to the project. This is equivalent to 10 lectures and 2 tutorials of 3 hours each, plus 6 hours preparation time for each of these. Of course, the actual time spent depends on the topic of the project.

Projects should preferably, but not necessarily, be related to at least one of the modules in the MFE program. If the project is not directly related to one of the modules, it should be related to financial engineering or risk management. This project is an opportunity to extend your knowledge of the material covered in the modules. It is also an opportunity to explore more deeply into some of the topics that you have learned during the MFE program. More details are given in the section "Scope of the project".

Submission

You must submit one soft copy of the completed project through LumiNUS FE5110 Files for grading. As well, any computer code or spreadsheet used for the project should be included in your submission. Please name all your files as "[Your Name] (Student Number) FE5110 [Term]" *e.g. YatiKum (A1234567X) FE5110 2010.pdf*. For references and all other supporting documents, please zip into a single file for submission. In other words, you need to submit **two** files, 1) the first one as the report - Word or PDF format, to the folder named "**Student Submission (Main Project)**", which will be going through the plagiarism check via Turnitin (please refer to the section "Plagiarism" for more details); and, 2) the other one as the supporting files - zip format, to the folder named **"Student Submission (Appendix)"**). Finally, you must print and submit a signed copy of the checklist (provided at the end of this document). You must work independently on your own project. There is no provision for teamwork.

The usual grading system as in other modules is also applied here.

The deadlines of submission are as follows:

Semester 1 AY 2020/2021(2010): Friday, 6 November 2020

Semester 2 AY 2020/2021(2020): Friday, 19 March 2021
(Students who wish to graduate on 30 June 2021 and attend the convocation ceremony in July 2021 must submit the project by this date).

Special Term AY 2020/2021(2040): Friday, 25 June 2021
(Students who submit the project by this date will be able to graduate before end of 2021, but can only attend the convocation ceremony in July 2022).

Submission of checklist must reach the MFE Program Coordinator in a sealed envelope with proper identification by the submission deadline at:

Ms YatiKum (FE5110 Checklist)
MFE Program Coordinator
NUS Risk Management Institute
21 Heng Mui Keng Terrace
I^3 Building #04-03
Singapore 119613

You will receive an acknowledgement of your submission by the submission deadline via email. If you do not hear from the Coordinator by the date, please give her a call to check.

For queries, please call Yati at +65 6516 4595.

Progress

Students are required to register for this module. This is an independent effort, and there is no resource for provision of formal supervision of the project by any lecturer. If there are any questions for the project, students should check with Dr.David Zhang at davidzhang@nus.edu.sg.

Scope of project

There is a wide range of possibilities for what can be done within a project. The only restriction is that the topic you work on is preferably related to at least one of the modules that you have taken in the MFE program or should be related to financial engineering or risk management. For example, purely macro-economic topics or computer science topics are not appropriate. As other example, a topic focused on technical analysis without any relation to financial engineering would not be appropriate.

Threeexamples of valid approaches are given, but you are certainly not restricted to thesethree.

1. Develop a numerical example that is related to a module in the MFE program. For example, the implementation of a particular model for pricing a particular derivative. The report should include the aims, methodologies, results and conclusions of the chosen example. It should point out the strengths and weaknesses of the methodologies used, and the applicability of the data sets used. Some possible improvements and possible extensions should be given.

2. Examine a new, innovative financial product. The report should explain the structure and details of the product, any hedging concerns, uses and target market for the product. The report can include an empirical study on the price history of product, perhaps relating to the efficiency of hedging using futures. Or the report can include a pricing of this product using numerical or analytical techniques.

3. A case study of a financial crisis or disaster, recent trends or market development or a company specific event which is relevant to financial engineering or risk management. At a minimum, the case study should contain: detailed exposition of facts or chronology of events,analysis of the problems or issues involved, the proposed solutions to prevent them from happening in the future. The analyses must use the quantitative methods and techniques, as well as application of the qualitative concepts, learned from the MFE program. You may also create a hypothetical case, the exposition and analysis of which should demonstrate your application of the theories from the various financial engineering subjects.

The report will be graded on the originality of your contribution as well as the following five factors:

(i) **Clarity of explanation**
How clearly are concepts and methodologies explained? Do the different portions of the report link well with each other? Are graphs and charts used in a meaningful way to display results for the reader?

(ii) **Accuracy and relevance**
Are the explanations correct? If there are any numerical calculations, are they done correctly? Is the topic chosen relevant to the material given in the module?

(iii) **Depth of understanding displayed**
Is there evidence that the content related to the MFE module is understood well? Has a thorough literature review been performed and is the existing literature well understood? If an article has been chosen, has the article been understood correctly?

(iv) **Insight and innovation**
Is there any insight in the article beyond what is stated in the article? Has a particularly innovative method being used? Has a method been applied in an innovative way?

(v) **Labour involved**
How much work has been put into the project? Is it a simple straightforward extension of material from modules or a more thought out extension requiring additional research or numerical work? The labour involved is relative to the 108 hours of a usual module. **A detailed breakdown of workload is required in the cover page of the report.**

Plagiarism

This should show not just your quantitative abilities or information sourcing abilities, but should also show that you can write in a clear, accurate and concise manner. For that reason, all writing in the project should be your original writing. Copying and pasting of any reference materials is not appropriate.

Moreover, plagiarism is a serious offense at NUS and any case will be brought to the NUS Board of Discipline. More details on plagiarism preventioncan be found here.
Please take note that Turnitin will only accept one submission not exceeding 40MB per user and your previous file will be overwritten once a new one has been uploaded. Please keep the system generated digital receipt of your final submission for future reference.

***Question**: The turnitin report only shows a similarity percentage with colour coding. May I ask what percentage constitutes plagiarism?*

***Answers**: You'll need to read the originality report (accessible by clicking the similarity percentage) to see in context what they are saying is a match. To understand the structure of the report more, you can click on the "help" link at the upper left.*

Some of the matches I realize may be entirely coincidental. This can be the case if it's just a short phrase or maybe in the case of a whole sentence. In this case you can ignore the match. However, if there are a number of sentences in sequence that are from a source that you don't recognize, it may be that source plagiarized from a source that you used.

Generally speaking, if there are exact paragraph matches, or even an excessive number of sentence matches it is not enough simply to list that source as a reference. These would be too much to be coincidence and would be considered to be plagiarism. It's usually a bad idea to copy and paste from other sources to later modify them for your report. One of the purposes of this project is as an exercise in writing. Original writing in a clear and concise manner is a skill that needs to be developed. If there are too many matches, then you will need to re-write those passages.

Important Note:

1. File name: The file names should contain your full name.
2. Report: In your report, **you should clearly indicate your original contributions**. You should also add a cover page in front of your final report. **A sample cover page can be found in Appendix 1 of this document**.
3. Software: If you use computer programs to produce the results, the soft copies of the programs should be provided so that the results can be reproduced. If you use many programs, you should provide one main program which will call other programs unless you use different softwares.

   If you use different softwares like MatLab, Excel, C++ etc., you should provide soft copies (source not compiled) of these programs that be run to reproduce the results. In this case, you should clearly describe which file contains which programs and what do they compute or perform. Again, you should have one main program per software type. For example, if you have many MATLAB programs, you should have one main program that calls others. Graphs used in the project do not need to be reproducible, but you should indicate which program produces the data in the graph.

   Reproducibility also means, if you use data, you should provide the soft copy of the data.

   Include many comments so that it is easier to read. However, you do not need to put comments for each line - comments on what group of lines would do would be sufficient.

4. Please hand in the check-list given in **the Appendix 2**.

Appendix 1 – Sample Cover Page

Please add the following information to your cover page of the final report.

Project Title	Your project title
Name	Your name
Student ID	Your ID
Itemized workload	
Data collection	Xxx hours
Literature review	Xxx hours
programming	Xxx hours
Workload IV	Xxx hours
Workload V	Xxx hours
Workload VI	Xxx hours
Total workload	Sum of above
Original contribution	This project has the following original contributions: Contribution 1 Contribution 2 Contribution 3 … Contribution 10

Appendix 2 - CHECKLIST

☐ **Have you correctly named your file as instructed below?**

Please name your files as "[Your Name] (Student Number) FE5110 [Term]" *e.g. YatiKum (A1234567X) FE5110 2010.pdf*.

☐ **Have you uploaded your software if any?**

☐ **Have you add the cover page in your final report?**

_____

Student's Name &Signature

----- END -----

(Updated on: 20 October 2020)