

COURSEWORK BRIEF:

Module Code:	MANG2092	Assessment:	Basic VBA Program	Weighting:	20%
Module Title:	Business Analytics Programming				
Module Leader:	Zixu Liu				
Submission Due Date: @ 16:00	27 November 2025			Word Count:	N/A
Method of Submission:	Electronic via Blackboard Turnitin ONLY (Please ensure that your name does not appear on any part of your work)				

Any submitted after 16:00 on the deadline date will be subject to the standard University late penalties (see below), unless an extension has been granted, in writing by the Senior Tutor, in advance of the deadline.

University Working Days Late:	Mark:
1	(final agreed mark) * 0.9
2	(final agreed mark) * 0.8
3	(final agreed mark) * 0.7
4	(final agreed mark) * 0.6
5	(final agreed mark) * 0.5
More than 5	0

This assessment relates to the following module learning outcomes:

<i>A. Knowledge and Understanding</i>	A1. The software development techniques that constitute good programming practice; A2. Object-oriented programming; A3. The importance of correctness, usability and readability in programming.
<i>B. Subject Specific Intellectual and Research Skills</i>	B1. Design and implement an algorithm to conduct technical calculations, manipulate data and create graphical user interfaces; B2. Be able to handle files using a programming language and integration with other packages such as Excel; B3. Use techniques for debugging an algorithm.
<i>C. Transferable and Generic Skills</i>	C3. Use your analytic skills in problem solving; C4. Communicate effectively, in both oral and/or written form

Purpose:

Terry is the Chief Financial Officer (CFO) of a private fund - SW Asset Management. He is going to prepare an investment plan to manage the asset in the next five years. In this plan, Terry needs to take factors such as the potential pandemic and economic recession into consideration. Assuming you are Terry's Executive assistant, you are tasked to build a model for the allocation of firms' capital.

SW Asset Management has £10 Billion cash available, and Terry has planned three investment classes:
 Investment class 1: allocation of up to 20% of SW Asset Management's total cash
 Investment class 2: allocation of up to 50% of SW Asset Management's total cash
 Investment class 3: allocation of up to 30% of SW Asset Management's total cash

For each investment class, Terry has provided a sub-sector allocation plan as detailed below:

Sub-sector	Investment Class 1	Investment Class 2	Investment Class 3
Artificial Intelligences (AI) and Information Technology (IT)	20%	20%	
Banks		60%	
Energy	50%	20%	25%
Global Supply Chain			25%
Real Estate	30%		
Smart Automotive			50%

SW's industry analytics concluded the annual return for each sub-sector as shown below:

Sub-sector	Annual return minimum	Annual return maximum
Artificial Intelligences (AI) and Information Technology (IT)	3%	8%
Banks	2%	5%
Energy	0%	8%
Global Supply Chain	6%	10%
Real Estate	5%	9%
Smart Automotive	10%	15%

You need to write a VBA program that, upon receiving information from SW's industry analytics about the number of funds invested in each sub-sector by each class (this information can be treated as the input of the user when operating your program), informs the user of the potential return on their investment. For example, this could be done by varying the percentage of asset allocation, the percentage allocated to each sub-sector, and their respective returns.

Your routine must:

- allow Terry to enter the expected annual return for each sub-sector he would like to invest in (e.g. the worst-case scenario and best case scenario).
- allow Terry to enter the investment duration (e.g. 1 year, 3 years, 5 years, etc.)
- ensure input data are valid (e.g. ensure that some numbers, such as percentages, are non-negative).
- display appropriate error messages (e.g. through MsgBox).
- calculate and then display the results (e.g. through MsgBox).

Notes: What type of input information should the program include (e.g., investment amount, expected annual return, best/worst annual return rate for each sub-sector)?

Answer: No specific kind of information is required. You need to ensure that your program has a clear storyline. Based on this storyline, choose the related variables and enable the user to input their information. This input must be used in the latter stage of calculation and display.

Once you have successfully completed the basic routine as specified above, work on extending its flexibility and range of usage. Extensions could include, but not limited to, the following considerations:

- How can data entry be made simple and straightforward for the user? Is the routine flexible enough to accept data in different formats?
- Can the routine be extended for other purposes such as, for example, as an integral component of a larger application such as one that might be used by a larger finance company with investment in large funds?
- Possible solutions: extend the program using Do...loops (do...while; do...until) so that the program repeatedly asks the user to enter another amount upon calculation until the user says 'no'. Make the function public [use Public Function] so that users can access it via an Excel worksheet.
- Please provide a paragraph in your submitted PDF file to discuss how you achieve that, up to 300 words.

Submit to blackboard:

- An Excel file in the xlsx format containing your routine. You must submit the xlsx file to the 'VBA Model Submission' tab on Blackboard.
- **A single pdf document containing the text of your VBA routine. You must submit the pdf document to the Turnitin submission tab on Blackboard.**

Please name your files using the final eight digits of your student ID number prefixed by VBA2, e.g. VBA2_12345678.xlsx and VBA2_12345678.pdf. Do not include your name.

Collaboration, plagiarism and cheating

- Unlike the exercise sheets for the course, you should work **on your own** when carrying out the coursework.
- Your report should acknowledge clearly all the people with whom you have discussed any part of the coursework, as well as any references you may have used.
- Please refresh your memory of the University's code on academic integrity, see <http://www.calendar.soton.ac.uk/sectionIV/academic-integrity-regs.html>

Marking Criteria:

The assignment will be assessed on the basis of correctness, usability and readability as per the grade descriptors.

You are reminded that if the statement Option Explicit is not included at the top of the source code in every non-empty module, class and UserForm in your project, you will lose credit for the assignment.

University of Southampton Business School Coursework Policy

1. **Nature of Assessment:** This is a SUMMATIVE ASSESSMENT. See 'Weighting' section above for the percentage that this assignment counts towards your final module mark.
2. **Word Limit:** +/-10% either side of the word count is deemed to be acceptable. Any text that exceeds an additional 10% will not attract any marks. The relevant word count *includes* items such as cover page, executive summary, title page, table of contents, tables, figures, in-text citations and section headings, if used. The relevant word count *excludes* your list of references and any appendices at the end of your coursework submission.

You should always include the word count (from Microsoft Word, not Turnitin), at the end of your coursework submission, before your list of references.

3. **Title/Cover Page:** You must include a title/cover page that includes: your Student ID, Module Code, Assignment Title, Word Count. This assignment will be marked anonymously; please ensure that your name does not appear on any part of your assignment.
4. **References:** You should use the Harvard style to reference your assignment. The library provides guidance on how to reference in the Harvard style [here](#).
5. **Submissions and Late Penalties:** The assignment MUST be submitted electronically via Turnitin, which is accessed via the individual module on Blackboard. Further guidance on submitting assignments is available on the [Blackboard support pages](#).

Please note that the submission deadline for the University of Southampton Business School is **16.00 UK time for all coursework-based assessments.**

Further information on penalties for work submitted after the deadline can be found [here](#). Remember to allow enough time prior to the submission deadline to ensure your submission is processed on time as **all** late coursework submissions are subject to the late penalty policy. We would recommend you allocate 30 minutes to upload your work and check the submission has been processed and is correct. Please make sure you submit to the correct assignment link.

The last submission prior to the deadline will be treated as the final submission and will be the copy that is assessed by the marker. It is your responsibility to ensure that the version received by the deadline is the final version; resubmissions after the deadline will not be accepted under any circumstances.

You can access your assignment dashboard at any time to download a copy of the submission receipt using the receipt [icon](#). It is vital that you make a note of your **Submission ID (Digital Receipt Number)**. This is a unique receipt number and is proof of successful submission. You may be required to provide this number at a later date. We recommend that you take a screenshot of this page or note the number down on a piece of paper.

If you have any problems during the submission process you should contact ServiceLine immediately by email at Serviceline@soton.ac.uk or by phone on +44 (0)23 8059 5656.

6. **Special Considerations:** If you believe that extenuating circumstances have adversely affected your academic performance, you may be eligible for Special Considerations. Information regarding the regulations governing Special Considerations can be accessed via the University Regulations, and the link to Special Considerations application form, can be found [here](#).

- 7. Extension Requests:** If you require additional time to complete your assessment due to circumstances beyond your control, you can request a deadline extension. Supporting information is required for extension requests longer than 5 days. You can find more information, including a link to the extension request form, [here](#).
- 8. Academic Responsibility & Conduct:** Please note that you can access Academic Responsibility & Conduct Guidance for Students via the Quality Handbook: [here](#). Please note any suspected cases of Academic Responsibility & Conduct will be escalated to the Academic Responsibility & Conduct Officer.

Over recent years, the most common reasons for a breach of the regulations governing [Academic Responsibility & Conduct](#) were:

Breach	How to avoid
Plagiarism – <i>using the work, words, or ideas of another without proper acknowledgement. This includes citing work that you haven't read.</i>	<ul style="list-style-type: none"> • Always cite your sources. • Only cite what you have read and used. • "Direct quotes must be in quotation marks" with a page number if applicable. • If you read about the work of another in a source, say 'cited in' and cite where you read it (see here for more info).
Collusion – <i>Collaborating with others in an unauthorized way to produce academic work meant to be done independently.</i>	<ul style="list-style-type: none"> • Unless permitted in a group assignment, don't work with/alongside others. • Don't share your work with others. • Ensure you are clear on where the line is. If in doubt, don't do it. •
External authorship – <i>Obtaining or attempting to obtain unauthorized input from another person or service for academic work, e.g GenAI</i>	<ul style="list-style-type: none"> • Ensure you are clear on if you are permitted to use GenAI. • Ensure your work is always your own. • Never send your work to others or upload it to a website. • Keep records of your work including notes, drafts, and reading.

Penalties for the above include mark reduction, resubmitting for a capped mark, or a '0' for the module.

If you are in any doubt, please ask.

Further learning and advice can be found in the [Academic Responsibility & Conduct Toolkit](#), and the Library [Website](#).

- 9. Feedback:** The University of Southampton Business School is committed to providing feedback within 20 working days, where possible. Once marks are released and you have received your feedback, you can meet with your Module Leader / Module Lecturer / Personal Academic Tutor to discuss your feedback. Any additional arrangements for feedback may be listed in the Module Profile. Please note, all marks are considered provisional until ratified by the Board of Examiners.
- 10. Student Support:** Study skills and language support for Southampton Business School students is available at: <http://www.sbsaob.soton.ac.uk/study-skills-and-language-support/>.