**Unit 2 GRASPS:** Modeling a Business

**GOAL**:

You will mathematically model a business using expense, revenue and profit functions.

**ROLE**:

You are an entrepreneur who wishes to start a new business.

**AUDIENCE**:

Your target audience is potential investors in your new business.

**SITUATION**:

You and a business partner are planning to start a new business. Before you can find investors to loan you the money to start your business, you need to write a business plan. One component of this plan is to estimate the expenses, revenue and profit margin for your business.

**PRODUCT PERFORMANCE**:

Your partnership will create a typed report for potential investors which includes all of the required components below.

**STANDARDS and CRITERIA for SUCCESS**:

Your report should include:

* An introduction paragraph that explains what your business is, why you think it will be successful, and a thesis statement that tells the reader about the components of the business model you will present and discuss in the body of the report.
* A short body paragraph to communicate each of the following:
	+ An explanation of the expense, revenue and profit functions you came up with for your business
	+ Breakeven analysis to determine the quantity of products you need to produce (or services you need to provide) *and* the range of prices between which you should charge for your product/service
	+ Maximum revenue and maximum profit calculations
	+ An explanation of the quantity of products you will choose to produce (or services you will provide) in the first year *and* the price you will charge for your product/service.
	+ The expected expenses, revenue and profit per item/service *and* for the total items/services you plan to produce/provide the first year.
* A closing paragraph which summarizes your business plan and leaves investors with a positive image of your business.
* An appendix of two graphs drawn on graph paper with key components labeled (i.e. breakeven points, maximum revenue, maximum profit, profit area, loss area)
	+ Graph #1: expense & revenue functions in terms of quantity
	+ Graph #2: expense, revenue and profit functions in terms of price

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**Report Rubric**

Each paragraph of your report will be graded using the following communication rubric for a total of 40 points. You may earn partial points between 1, 3 and 5. *Note: your graphs count as supporting material for the relevant paragraphs in your report.*

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| --- | --- | --- | --- |
|  | **1 = NOT YET QUALITY**Student struggles with ONE or MORE of the following: | **3 = QUALITY**Student meets ALL of the following expectations: | **5 = VALUE-ADD**Student meets ALL of the QUALITY expectations AND… |
| Written Delivery | Written explanation is scattered and lacks coherence and flow.Written explanation does not use complete sentences.Written explanation has grammar and/or spelling errors.  | Written explanation is coherent and flows naturally from one sentence to the next.Written explanation uses complete sentences.Written explanation is free of grammar and spelling errors. | Written explanation is in paragraph form, including an opening sentence to introduce the problem, body sentences that provide supporting material, and a summarizing closing sentence. |
| Supporting Material  | Insufficient supporting materials (technical vocabulary, explanations, interpretations, examples, illustrations, statistics, analogies, quotations from relevant authorities) to convince audience of the information being presented.Supporting materials are incorrectly used, calculated, or interpreted. | Supporting materials are relevant and help to convince the audience of the information being presented.These include any of the following that are relevant: technical vocabulary, explanations, interpretations, examples, illustrations, statistics, analogies, and/or quotations from relevant authorities.Supporting materials are correctly used, calculated, and interpreted. | A variety of types of supporting materials convinces the audience of the information being presented and significantly establishes the author’s credibility/ authority on the topic.These include any of the following that are relevant: technical vocabulary, explanations, interpretations, examples, illustrations, statistics, analogies, and/or quotations from relevant authorities. |

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**Self & Peer Assessment Rubric**

You will rate yourself and your partner(s) using the rubric below. Model the Core Value “integrity” and complete this honestly for yourself and your partner(s).

|  |  |  |  |
| --- | --- | --- | --- |
|  | **1 = POOR** | **2 = FAIR** | **3 = EXCELLENT** |
| Interactions with partner(s) | Does not listen to partner(s).Does not respect partner(s)’ ideas.Does not ask questions or participate in discussions. Does not support partner(s) in their learning. | Listens to partner(s) some of the time.Respects partner(s)’ ideas some of the time.Asks questions and participates in discussions some of the time. Supports partner(s) in their learning some of the time. | Listens to partner(s) all of the time.Respects partner(s)’ ideas all of the time.Asks questions and participates in discussions all of the time. Supports partner(s) in their learning all of the time. |
| Contributions  | Does not generate any ideas for the project.Does not complete any mathematical work.Does not complete any written work. | Generates some ideas for the project.Completes some mathematical work.Completes some written work. | Equally generates ideas for the project.Equally completes mathematical work.Equally completes written work. |