**Lesson Plan and Assignments**

BM4402 (Operations Management) Short Semester

Welcome to this module, Operations Management. It plays a vital role in national and world economies. The operations function exists in virtually every organisation. It can make or break a business. Today operations management is considered to be an integration of production of products and the non-core production related processes such as purchasing, physical distribution and after sales services and others. The term operations management actually involves the whole organisation. Therefore all parts of an organisation are involved with production.

**Lesson Plan**

|  |  |  |
| --- | --- | --- |
| Week | Lectures: Topics | Tutorials/Assignments |
| 1 | 1. Introduction to Operations  Management (HRM: c 1) | Case: Hard Rock Café: Operations Management in Services |
| 2. Managing projects  (HRM 3) | **Individual Assignment 1: Southwestern University Stadium project** |
| 2 | 3. The Global Environment and  Operations Strategy  (HRM: c. 2) | Case: Rapid-Lube – vehicle service provider |
| 4. Quality Management &  International Stds, JIT, TPS  & LO, TQM (HRM: c.6) | **Individual Assignment 2: JIT in Toyota** |
| 3 | 5. Product Design (HRM: c.5) | Examine 6 issues relating to product design |
| 6. Forecasting Demand  (HRM: c. 4) | Questions involving 4 issues: methods of forecasting, forecasting system, tracking signal and seasonality. |
| 4 | 7. Managing Supply Chain  (HRM: c. 11) | Evaluate supply chain to gain CA  **Group Assignment: A report on 4 areas of operations management** |
| 8. Capacity Planning  (HRM: . 7 supplement) | Examine issues in designing an efficient capacity of a plant, and bottleneck. |
| 5 | 9. Facility Location Planning  (HRM: c. 8) | Case: IKEA furnishes the world |
| 10. Layout Planning  (HRM: c. 9) | Examine 3 issues: factors to locate a plant, location problems and staffing in foreign locations. |
| 6 | 11. Process Design  (HRM: c.7) | Examine 4 issues: process strategy, process redesign, techniques to improve service productivity and computer integrated manufacturing. |
| 12. Managing Inventory  (HRM: c. 12) | Examine the EOQ model. |
| 7 | 13. Scheduling  (HRM: c. 15) | Schedule to meet fluctuating demands – aggregate scheduling |
| 14. Revision | - |

Assessments:

Individual Assignment 1 25%

Individual Assignment 2 25%

Group Assignment 20%

Final Exam 30%

Total 100%

Recommended Textbooks:

1. Heizer, J., Render, B. and Munson, A. (2020). *Operations Management* (13th ed.).

Prentice Hall.

2. Meredith, J.R. and Shafer, S.M. (2010). *Operations Management for MBAs* (4th ed.),

John Wiley & Son, Inc.

3. Slack, N., Chambers, S., Johnston, R. and Betts, A. (2018). *Operations and Process*

*Management (Principles and Practice for Strategic Impact (5th ed, Prentice Hall, Italy.*

4. Lee J. Krajewski, Manoj K. Malhotra & Larry P. Ritzman (2019*). Operations*

*Management Processes and Supply Chains* (12th edition), Pearson, UK.

**Coursework**

|  |  |
| --- | --- |
| **Assignments** | **Marks** |
| **TWO Individual Assignments**  1. A Case Study: Southwestern University: A Project Management  2. A Case Study: JIT in Toyota | 25  25 |
|  |  |
| **ONE Group Assignment**  As a group of consultants fired by certain investors who intended to set up a business in Malaysia to present a report in relation to certain areas:   1. Breakeven in relation to capacity planning 2. Maintaining the cost of quality in relation to TQM 3. Location of facility 4. Project management | 20 |
| **Total** | 70 |

**BM4402 (Operations management)**

**Individual Assignment 1**

**Case: Southwestern University**

Southwestern University (SWU) is a large state college in Stephenville, Texas enrols close to 20,000 students. The school is a dominant force in the small city, with more students during fall and spring than permanent residents.

A long time football powerhouse, SWU is a member of the Big Eleven conference and is usually in the top 20 in college football rankings. To bolster its chances of reaching the elusive and long-desired number-one ranking, in 2009, SWU hired the legendary Phil Flamm as its head coach.

One of Flamm’s demands on joining SWU had been a new stadium. With attendance increasing, SWU administrators began to face the issue head-on. After 6 months of study, much political arm wrestling, and some serious financial analysis. Dr Joel Wisner, president of SWU, had reached a decision to expand the capacity at its on-campus stadium.

Adding thousands of seats, including dozens of luxury skyboxes, would not please everyone. The influential Flamm had argued the need for a first-class stadium, one with built-in dormitory rooms for his players and a palatial office appropriate for the coach of a future NCAA champion team. But the decision was made, and everyone, including the coach, would learn to live with it.

The job was now to get construction going immediately after the 2015 season ended. This would allow exactly 270 days until the 2016 season opening game. The contractor, Hill Construction (Bob Hill being an alumnus, of course), signed his contract. Bob Hill looked at the tasks his engineers had outlined and looked President Wisner in the eye, “I guarantee the team will be able to take the field on schedule next year,” he said with a sense of confidence. “I sure hope so,” replied Wisner. “The contract penalty of $10,000 per day for running late is nothing compared to what Coach Flamm will do to you if our opening game with Penn State is delayed or cancelled.” Hill, sweating slightly, did not need to respond. In football-crazy Texas, Hill Construction would be mud if the 270-day target was missed.

Table 1: Southwestern University (SWU)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Time Estimates (Days) | | | |
| Activity | Description | Predecessor(s) | Optimistic | Most likely | Pessimistic | Crash cost/day |
| A | Bonding, insurance, tax structuring | - | 20 | 30 | 40 | $1,500 |
| B | Foundation, concrete footings for boxes | A | 20 | 65 | 80 | 3,500 |
| C | Upgrading skybox stadium seating | A | 50 | 60 | 100 | 4,000 |
| D | Upgrading walkways, stairwells, elevators | C | 30 | 50 | 100 | 1,900 |
| E | Internal wiring, lathes | B | 25 | 30 | 35 | 9,500 |
| F | Inspection approvals | E | 0.1 | 0.1 | 0.1 | 0 |
| G | Plumbing | D, F | 25 | 30 | 35 | 2,500 |
| H | Painting | G | 10 | 20 | 30 | 2,000 |
| I | Hardware/AC/metal workings | H | 20 | 25 | 60 | 2,000 |
| J | Tile/carpet/windows | H | 8 | 10 | 12 | 6,000 |
| K | Inspection | J | 0.1 | 0.1 | 0.1 | 0 |
| L | Final detail work/clean-up | I, K | 20 | 25 | 60 | 4,500 |

Back in his office, Hill again reviewed the data (i.e. the Table 1) and noted that optimistic time estimates can be used as crash times. He then gathered his foremen. “Folks, if we’re not 75% sure we’ll finish this stadium in less than 270 days, I want this project crashed! Give me the cost figures for a target date of 250 days – also for 240 days. I want to be early, not just on time!”

**Questions**

1. (a) Develop a network drawing for Hill Construction.(25 marks)

(b) Determine the critical path. (5 marks)

(c) How long is the project expected to take? (5 marks)

1. (a) Calculate the expected time to complete the project. (14 marks)

(b) Calculate the project variance. (14 marks)

(c) Calculate the standard deviation expected of the project. (2 marks)

(d) Determine the probability of completing the project in 270 days. (5 marks)

(e) Determine the probability of completing the project in 250 days. (5 marks)

1. If it is necessary to crash to 250 or 240 days, how would Hill do so, and at what costs?

As noted in the case, assume that optimistic time estimates can be used as crash times.

(15 marks)

4. Briefly explain the methods/approaches you have used to complete this assignment.

(10 marks)

**Instructions**

You are required to **read, analyse and evaluate** the case study “Southwestern University” and answer the 4 questions

**Hand-in-date and Instructions**

1. The report must be stapled at the top left hand corner.

2. State your name and student ID number, the lecturer and the date of your submission.

4. You are required to submit your report in the 2nd week.

5. Failure to follow the above instructions may result in your work not being marked.

6. Any detection of plagiarism will lead to an immediate ‘fail grade’.

Individual Assignment 2 (25%)

BM4402 (Operations Management)

**Case Study: JIT in Toyota**

Toyota first moved the JIT (Just-in-time) approach of continuous and forced problem solving via a focus on throughput and reduced inventory. Together with the TPS (Toyota Production System) and lean operations, JIT has catapulted the company to post WWII growth and has become the world largest automobile manufacturer. It has enhanced the competitive position of Toyota in the automobile industry and continues to grow from strength to strength over the years. The annual sales exceeded 9 million cars and trucks.

The rest of the world has marvelled at this marvellous innovation that has also contributed to the economic growth of Japan as a triad economic nation of the world. Japan, as a nation has little natural resources and through sheer hard policy and cultural heritage, it has developed the intellectual property to enable Japan to become an economic power in the world; standing side-by-side with EU and USA.

Assume that JIT approach is adapted and successfully implemented in Malaysia among the industries, what would be the contributions and implications to Malaysia in relation to the following aspects:

1. Its economic position;
2. Its operations management prospects;
3. Its human resource development;
4. Its human skills and technological enhancement in term of the intellectual property.

Instructions:

1. This is an individual assignment.
2. The report should not exceed 3000 words.
3. Use front size 12 and 1.5 spacing,
4. Date of submission: 4th week

**Module BM4402(Operations Management)**

**Coursework Feedback/Marking Scheme**

**Student Name: ..................................... Student ID Number .................................**

**Topic: JIT in TOYOTA**

**Lecturer: ................................................. Date of Submission: ..............................**

**Marking Scheme**

|  |  |
| --- | --- |
| Criterion | Comment |
| 1. Presentation of assignment 10%  Grade: |  |
| 2. Clarity of expression 10%  Grade: |  |
| 3. Content and range 20%  Grade: |  |
| 4. Use of literature/evidence  of reading 10%  Grade: |  |
| 5. Knowledge of theory 20%  Grade: |  |
| 6. Critical reasoning 20%  Grade: |  |
| 7. Reflection/evaluation 10%  Grade: |  |
| **Mark awarded:** | **Marked by:** |

Date: .................................................

**GROUP ASSIGNMENT (20%)**

**Module** : BM4402 (Operations Management)

**Objective**

The objective of the group assignment is to explain the roles of operations management, and their interactions with the other activities of a firm to ensuring that efficiency, responsiveness and quality are in place.

This assignment also helps students to understand the challenges, excitement and creativity associated with managing operations.

**Written Assignment**

As a group of consultants hired by certain investors who intended to set up a business in Malaysia, you are requested to present a report in relation to the following areas:

* **Break-even in relation to capacity planning**
* **Maintaining the cost of quality in relation to TQM**
* **Location of facility**
* **Project Management**

Task:

Your report on the four roles of operations management should provide an interesting in-depth knowledge and aspiration specific to each role necessary to enable the proposed business to attain competitive advantage. In what ways these four roles are important to the suggested business.

You must demonstrate a high level of analytical skills and sound interpretation to justify your suggestions. You are expected to research widely to obtain information.

It is expected that you explore the four areas, consult resources beyond lecture notes and the course text. You are required to use models and theories, found in the textbooks, journal articles, and found through your own research to support your argument. Your analysis should be supported by examples and descriptions of the identified pattern.

As a guide, word length expected is about **2500 words**, references are not to be included plus appendices if applicable.

Writing the essay

Kindly adhere to the following instructions when writing the essay:

1. Use font size 12 and 1.5 spacing.
2. Have a cover page that should state the title of the group assignment, the name of the student, and the name of the lecturer and the date of submission.
3. Pages should be numbered, and the entire document should be securely bound using a plastic comb or a heat-seal binding system.
4. Students should proper references using the APA approach.
5. Assignments should include a bibliography, typed on a separate page and listed in alphabetical order of author surname, detailing all sources used in preparation.
6. Assignments should preferably not exceed, or fall below, the set word limit by more than 10%. Please note that the cover page, table of contents, bibliography and appendices should not be included in the word count.
7. Use a heading for each new paragraph. A heading may be divided into sub-headings. Very long sentences can be broken down. Check your spelling and grammar before submitting your work.
8. Appendices and attachments should be kept to a minimum. As much as possible, the relevant material should be included in the main body of the submission, rather than appended to the end of the work.
9. Kindly note that marks will be deducted for presentation errors as well as for poor referencing, grammar and expression.

**Submission: 6th week**

**Late submissions**: Late submission without a valid reason will result in a mark of 0%.

…..The End ……

**Operations Management -BM4402**

**Marking Scheme Criteria for Group Assignment**

**(Final Submission Assessment)**

Student names:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID NO. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID NO. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID NO. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| **Assessment criteria** | **Marks obtained**  2nd marker  1st marker | |
| **Presentation of Assignment (10%)**   * Appropriate and logical structure |  |  |
| **Clarity of expression (10%)**   * Comprehensively discussed the subject matter |  |  |
| **Understanding of issues (15%)**   * A clear understanding and comprehensive analysis of the issues |  |  |
| **Application of concepts (15%)**   * Indication of the ability to apply the concepts learnt |  |  |
| **Content: ideas and suggestions (25%)**   * Developing and justifying the use of own ideas and suggestions from a wide range of sources. |  |  |
| **Reflection/Evaluation (25%)**   * Comprehensively discussed, evaluative thinking and demonstrates well-articulated opinions and presentation. |  |  |
| **Total (100 marks)** |  |  |
| **TOTAL (20%)** |  |  |
| **Overall Comments:** | | |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

Name & Signature of Lecturer Date