**UNIVOTEC**

# Bachelor of Technology
# in
# Industrial Management Technology

# Student Handbook

Department of Management Studies
**Faculty of Training Technology**
**University of Vocational Technology**

June 2019

**Rationale of the Degree:**

Technology is changing at a rapid speed and it has a remarkable impact on sustainable development of all industries. In fact, the globalization becomes a threat, unless a country does not adapt with emerging technologies and restructure its thinking pattern as a global thinker. The technology underpins the industrialization, innovation, process and product design & development in which the nation survives independently among global competition. In this context, the role of Technologists (middle and higher level) and engineers becomes more vital in the process of product development, manufacturing.

In particular, effective supply chain Management, Facility lay out planning, Manufacturing process Management, Material handling, Work force Management, Financial Management ,Demand Management are the critical roles which are supposed to be performed by the middle level technical and supervisory level personnel , Assistant Engineers and other middle level Managers those who are   employed in organizations in   manufacturing industries. Even if the technical competencies of them  are  up to standard levels, the so called managerial and administrative competencies that are   highly essential for successful and effective coordination and integration of resources and ideas among and within industries and organizations are found to be not up to the required standard, from the industry's' perspective.

 This conclusion was made as a result of the need analysis conducted to determine as to what extent the industry expect administrative and managerial skills from a technically qualified middle level manger and weather there are any discrepancies in the existing system.

According to the findings of need analysis conducted at the initial stage of developing this Degree Programme, it was emphasized that majority of graduates are lacking practical exposure, to what the industry gives a higher priority when employing people. Further it was revealed that their critical thinking, researching and innovativeness are at unsatisfactory levels. In addition to that, it was highlighted that engineering graduates are lacking managerial skills whereas non-engineering graduates are lacking critical thinking and analytical skills. The proposed Degree programme has been designed to bridge the above gap with integration of technological and industrial exposure to the curriculum, on which the    conventional Industrial Management Degree Programme has less emphasis.

On the other hand, the diploma holders from non- management disciplines (Stated in the admission requirements), and those who intend to move into managerial positions do not have a proper mechanism to earn a degree. (Especially NVQ stream and other equivalent diplomas)

The contents of this programme is developed in such a way to reconcile the said gap and the mismatch in skill and knowledge that is found in existing Management Degree Programmes. It is expected to minimize the existing skill mismatch among undergraduates. With University and industry liaison this study programme can be updated in order to make it sustainable.

**Admission Requirements:**

I.   NVQ Level 5/6in any subject discipline specified below.

- Accountancy/Marketing/HRM or any Management discipline.
- Production/ Farm Machinery /Manufacturing
- Fashion Design / Textile / Beauty Culture/ Gem & Jewelry
- Electrical & Electronic / Automobile / Mechatronics / Mechanical / Refrigeration & Air Conditioning and Information & Communication Technology
- Construction/Civil / Quantity Surveying
- Agriculture / Food Technology

  **Or**

II.  HNDE/NDT/NDES/SLITA or equivalent qualification acceptable to the Academic council of UNIVOTEC. Preference will be given to the candidates with managerial/supervisory level work experience.

  **Or**

III. Any other qualification which the Tertiary and Vocational Education Commission has accepted as deemed to be equivalent to NVQ Level 5 or 6.

Exemptions may be granted in relevant modules after a proper evaluation for those who have NVQ level 6 or equivalent qualifications. Preference will be given to those applicants having post diploma industrial experience of at least one year.

**Student Selection:**

Eligible candidates are required to sit for aptitude test. Selection is done based on the marks obtain by the candidates.

**Registration:**

Registration is the acceptance of the selected applicant as a student in the University. Prior to registration the applicant is issued with an offer letter for a particular academic programme along with a voucher to pay the relevant course fee, of which following may be the constituents:

a) Registration fee – To be paid at the first registration and subsequently at re-registrations
b) Tuition fee
c) Facility fee
d) Library deposit (Refundable)
e) Library fees (nonrefundable)
f) Laboratory fee if applicable (nonrefundable)

The letter calling for registration will request the applicant to produce the original documents of the following:

a) School leaving certificate
b) National Identity Card or Passport
c) Birth Certificate
d) Certificates of all educational qualifications
e) Documents requested to be obtained from the employer
f) Any other documents depending on the study programme
g) Documentary evidence for the payment of the Registration fees, course fees, Library fees, etc.

University has no obligations to refund the above fees in case of a disqualification of an applicant for reasons due to lapse/s from the part of the applicant at the registration stage. The applicant who is duly registered for an academic programme shall become a student of the University and will receive a Student number and a Student Identification Card.

The selected candidate shall personally appear before the registration desk for registration, unless the provision is available for online registration.

**Credit system and the Duration:**

The course structure is based on module system. Each module has been assigned a Credit Value, depending upon the number of notional hours required to achieve the outcome of the module. Notional hours include directed learning as well as self-directed learning. One credit is equivalent of 25 notional hours of learning. This system is bench marked with the European Credit Transfer and Accumulation System (ETCS).

Duration of the degree program is 3 years. One academic year consists of two semesters. One semester may consist of 15 weeks for full time and 22 weeks for part time programmes. Total notional hours per semester, is 750. A total of 25 notional hours is equal to 01 credit. Total number of credits per semester is 30.

B. Tech. in Industrial Management degree is a 3 year full time course.

**Course Structure:**

**Module Code:**

| | | | | |
|---|---|---|---|---|
| XX10501 | - | XX | - | Department offering the module |
| | | 1 | - | Semester |
| | | 05 | - | Number of Credits |
| | | 01 | - | Serial number of the module |

**Module Type:**

The degree consist of Compulsory (C) modules, Elective (E) modules and Optional (O) modules. Core compulsory modules and Elective modules designated as GPA modules will be used to calculate the grade point averages.

| | | |
|---|---|---|
| C | - | Compulsory |
| E | - | Elective |
| O | - | Optional |
| G | - | GPA |
| NG | - | Non GPA |

| Module Code | Module Title | Type | Credits | Year I S-I | Year I S-II | Year II S-I | Year II S-II | Year III S-I | Year III S-II |
|---|---|---|---|---|---|---|---|---|---|
| MS10401 | Management Theory and Practice | C/G | 04 | √ | | | | | |
| MS10402 | Mathematics for Management | C/G | 04 | √ | | | | | |
| LS10316 | Communication Skills-I | N/G | 03 | √ | | | | | |
| MS10404 | Introduction to Accounting | C/G | 04 | √ | | | | | |
| MS10405 | Marketing Management | C/G | 04 | √ | | | | | |
| MS10406 | Information Technology for Managers | C/G | 04 | √ | | | | | |
| MS10307 | Business Statistics –I | C/G | 03 | √ | | | | | |
| MS10408 | Introduction to Economics | C/G | 04 | √ | | | | | |
| | | | **30** | | | | | | |
| MS20401 | Human Resource Management | C/G | 04 | | √ | | | | |
| MS20402 | Strategic Management | C/G | 04 | | √ | | | | |
| MS20403 | Economics for Business | C/G | 04 | | √ | | | | |
| LS20308 | Communication Skills II | C/G | 04 | | √ | | | | |
| MS20309 | Management Information Systems | C/G | 04 | | √ | | | | |
| MS20405 | Organizational Behavior | C/G | 04 | | | | | | |
| MS20406 | Introduction to Quality Management | C/G | 04 | | √ | | | | |
| MS20407 | Costing & Cost Benefits Analysis | C/G | 04 | | √ | | | | |
| | | | **32** | | | | | | |
| MS30401 | Entrepreneurship and Business Management | C/G | 04 | | | √ | | | |
| MS30402 | Management Accounting | C/G | 04 | | | √ | | | |
| MS30403 | Project Management | C/G | 04 | | | √ | | | |
| MS30404 | Electronic Commerce and Web Technology I | E/G | 04 | | | √ | | | |
| MS 30405 | Business Statistics –II | | | | | | | | |
| MS30406 | Industrial and Commercial Law | C/G | 04 | | | √ | | | |
| MS30407 | Operations Management | C/G | 04 | | | √ | | | |
| EE40403 | Energy Management | E/G | 04 | | | √ | | | |
| MS30408 | Maintenance Management | | | | | | | | |
| | | | **32** | | | | | | |

| Module Code | Module Title | Type | Credits | Year I | | Year II | | Year III | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | S-I | S-II | S-I | S-II | S-I | S-II |
| MS40403 | Logistic and Supply Chain Management | C/G | 04 | | | | √ | | |
| Ms40402 | Electronic Commerce & Web Technology II | C/G | 04 | | | | √ | | |
| MS 40407 | Management of Technology | C/G | 04 | | | | √ | | |
| MS40605 | Computer Aided Design and Manufacturing | C/G | 06 | | | | √ | | |
| MS40405 | Financial Management | C/G | 05 | | | | √ | | |
| MS40507 | Quality Control Techniques | C/G | 05 | | | | √ | | |
| EE40290 | Cosmology | E/NG | 02 | | | | √ | | |
| ET40290 | Stress management | E/NG | 02 | | | | √ | | |
| MS 40406 | Research Methods | C/G | 04 | | | | √ | | |
| | | | | | | | | | |
| MS51401 | Work Based Training | | 14 | | | | | √ | |
| | | | | | | | | | |
| MS60301 | Plant Layout and Materials Handling | C/G | 03 | | | | | | √ |
| MS60402 | Occupational Health & safety | C/G | 04 | | | | | | |
| MS60403 | International Trade and Export Marketing | C/G | 04 | | | | | | √ |
| MS60304 | Innovation Management | C/G | 03 | | | | | | √ |
| MS60305 | Environmental Management and Cleaner Production | C/G | 03 | | | | | | √ |
| MS60406 | Work study & Ergonomics | C/G | 04 | | | | | | √ |
| MS61807 | Final project | C/G | 18 | | | | | | √ |

**Work Based / Industrial Training:**

Fifth semester of the study programme is dedicated to this component of the degree. The purpose of this module is to enable students to apply competencies required through the academic programme to workplace experiences.

Students studying the degree in full time mode will be placed in various industrial establishments/worksites related to their fields of studying for a period of six months through National Apprentice and Industrial Training Authority (NAITA) under undergraduate in plant training scheme.

Those who are studying in the part time mode are required to undertake work based training in their places of work, under supervise of a senior officer. Work undertaken during this period should be different from the part time work which he/she is suppose to the in his/her job.

**Final Year Project:**

This module is given in the sixth semester. This is an individual project, which provides opportunity for the students to enhance their ability in problem solving, team working and leadership using the competencies acquired throughout the undergraduate career through the implementation of a project.

To successfully complete this module students are expected to design and implement a challenging engineering project applying realistic constraints and engineering standards within a given timeframe and present technical ideas in written and oral form effectively.

**Course Assessment System:**

The performance of each student in each module will be evaluated by continuous assessments and a semester-end examination.

The weightings assigned for the continuous assessment component and the semester - end examination of a module will be as follows.

* Continuous Assessment       40% - 70%
* Semester - End Examination   60% - 30%

- The continuous assessment may consist of assignments, quizzes, laboratory work, practical, tutorials, demonstrations, presentations, projects, oral tests and mid semester tests. Weightings of each of these components used in the determination of the final grade for each module should be clearly conveyed in writing to the students at the commencement of each module along with the outline of the module.

- The fulltime and part-time students should maintain 80% and 60% of attendance respectively and satisfy the requirements specified in each module descriptor to be eligible to sit for the semester-end examination.

- All Candidates should obtain at least 30% of the marks allocated for continuous assessment to get qualified to sit for the semester - end examination.

**Grading System and Computation of Grade Point Average (GPA):**

A letter grade shall be awarded to each module. The cut-off marks for each grade and the corresponding grade points are given below.

| Grades | Marks | Grade Point |
|--------|-------|-------------|
| A+ | 90 or above | 4.00 |
| A | 80 – 89 | 3.70 |
| B+ | 70 – 79 | 3.30 |
| B | 60 – 69 | 3.00 |
| C+ | 50 – 59 | 2.70 |
| C | 40 – 49 | 2.00 |
| D | 30 – 39 | 1.00 |
| E | 01 – 29 | 0.00 |
| F | 0 | 0.00 |

1. Grade D or above is required to earn credits for a module.

2. A minimum 30% should be obtained from continuous assessment for eligibility to sit for the end semester exam.

3. A minimum requirement of 30% should be obtained from the semester - end Examination in order to obtain a grade D or above for a module.

4. A student satisfying continuous assessment requirements and getting between 1 – 29 marks for the semester end examination receives a symbol as E(ET) while a student getting 0 for the semester end examination receives symbol F(ET). A student satisfying semester end examination requirements and getting between 1 and 29 marks for the continuous assessment receives a symbol as E(CA) a student getting 0 for the continuous assessment receives symbol as F(ET). A student getting between 1 and 29 marks for both the semester end examination & the continuous assessment receives the Grade E while a student getting 0 for both the semester end examination & continuous assessment receives the Grade F. A student must repeat the part of the module examination/complete module examination having Grade E or F & must improve up to Grade D or C. The modules having Grade D are allowed to repeat only when the Semester Grade Point Average (SGPA) of a particular semester is less than 2.00. By repeating only the semester end examination/continuous assessment or both, the Grades F, E or D can be improved only up to a C grade and considered for calculating Grade Point Average (GPA). Repeating continuous assessment or semester end examination is considered as repeating the whole module.

**Academic Concession:**

Academic Concession may be granted to a student with the approval of the Faculty Board, in the event that a student is unable to sit for the semester-end examination due to illness or other compelling reason. In such instances the student must notify the Dean of the faculty within 48 hours of the cause. Further, the student should make an appeal with supporting documents to the Dean for an Academic Concession within one week from the date of the examination. The continuous assessment component can be carried forward to the next examination as the first attempt.

**Semester Grade Point Average (SGPA):**

The calculation of the Semester Grade Point Average will be based on the Grade Points earned for all modules registered in a semester (except those awarded with academic concession) weighted according to number of credits. The SGPA is rounded to the nearest second decimal place. The SGPA is reported on transcripts and Statement of Results that may be issued for each semester.

The formula for calculating SGPA is given below.

$$\text{Semester GPA (SGPA)} = \frac{\Sigma \text{ (Number of Credits for a semester module x Grade point obtained for the module)}}{\text{Total number of credits for the Semester}}$$

## Final Grade Point Average (FGPA):

The Final Grade Point Average is the absolute academic standing of the student calculated on the basis of SGPA. The FGPA will be calculated using the following formula.

$$\text{Final GPA (FGPA)} = \frac{\Sigma \text{ (Semester GPA)}}{\text{Number of Semesters}}$$

## Unsatisfactory Standing on Academic Performance:

If the student's SGPA falls between 1.99 and 1.50 the student will be placed on Academic Warning.

A student who falls into one of the following categories of the SGPA will not be permitted to register for a new module until the SGPA is upgraded to 2.00 or more.

i.   SGPA < 1.50 in any two semesters

ii.  SGPA < 1.50 in any semester and $1.50 \leq$ SGPA < 2.00 in any two semesters

iii. $1.50 \leq$ SGPA < 2.00 in any three semesters

**Graduation Requirements:**

**Credit Requirements:**

A student should satisfy the following requirements in order to be admitted to the Bachelor of Technology Industrial Management  Technology.

(i)     A minimum total of 180 credits from modules specified.

(ii)    A minimum Final Grade Point Average (FGPA) of 2.00

(iii)   Any other mandatory requirement specified by the Academic Council


**Key to Final Results (FGPA – Final Grade Point Average):**

| **FGPA** | **Final Results** |
|---|---|
| 3.7 or Above | First Class |
| 3.30 – 3.69 | Second Upper |
| 2.70 – 3.29 | Second Lower |
| 2.00 – 2.69 | Ordinary Pass |
| Below 2.00 | Incomplete |