THE GRADUATE SCHOOL
OF MANAGEMENT OF TECHNOLOGY

THE DOCTOR OF PHILOSOPHY (PH. D.)
DEGREE PROGRAM

THE UNIVERSITY STATEMENT OF MISSION

Vision Statement:

The vision of Nile University is to be a world class, internationally recognized research university.

Mission Statement:

The mission of Nile University is to contribute to the development of the technology-driven economies of Egypt and the region through the pursuit of education and research at the highest levels of excellence.

To accomplish its mission, NU shall:

- Recruit, develop and retain high quality faculty and staff.
- Attract, support and retain highly qualified and motivated students.
- Create an educational environment and physical facilities conducive to learning and research.
- Establish strong linkages with business, government and NGOs to enhance capacity building in the local and regional communities.
- Promote a culture of creative research and critical thinking.
- Create the conduit through which expatriates can contribute to Egypt and the region.
- Encourage collaboration with other universities and research institutes.
- Embrace intellectual property development and incubate promising ventures.

1. GRADUATE ADMISSIONS POLICY

ADMISSION REQUIREMENTS

All students wishing to take graduate courses at Nile University (NU) must submit an application to the Admissions Office whether or not they are planning to pursue a specific degree. All required materials for admissions, including the applications fee receipt, should be sent directly to the Office of Admissions at NU.

Generally, students admitted to NU are required to hold an appropriate university degree, preferably in a technology or business related discipline. Decisions on admission to the university are made by the admissions committee based on the student's academic records, TOEFL, GRE or GMAT scores, recommendation letters and the student's statement of purpose. General guidelines are a grade of "Good" from recognized universities in Egypt or a GPA of 3.0 from an accredited university or program. A TOEFL score of 61 internet-based (iBT) or equivalent is required from applicants who did not receive their prior degrees from an English speaking institution. The academic committee of Nile University may admit a student with a GPA lower than 3.0 based on the overall evaluation of the student file, work experience, and his/her potential for successfully pursuing postgraduate studies. Other evaluation measures include a personal interview.

Applicants have to undergo personal interview(s), academic exams, and/or take remedial courses that may be required by the Program and approved by the Dean of Graduate Studies.

Applicants may be requested by the Admissions Committee, subject to the approval of the Dean of Graduate Studies, to satisfy certain pre-requisites before obtaining regular admission status.

Additional Academic Requirements for Admission to Ph. D. Program in Management of Technology (MOT):

- The applicant must be a holder of a Masters Degree or equivalent professional qualification from an accredited university in technology, business, or related field. Preference is made to applicants holding a Masters Degree in Management of Technology.
- The applicant must have been graduated from the Masters degree with a minimum average grade of 3.3 on a 4.0 scale (very good).
- NU may admit a student with a graduate GPA lower than 3.3 on a 4.0 scale (but not less than 3.0), based on the overall evaluation of a student file, relative work experience, and her/his potential for successfully pursuing the studies towards the doctoral degree.
- Applicant should have a minimum of two years of validated appropriate occupational experience.
- Applicants who have a graduate degree in disciplines other than MOT will be subject to evaluation; courses taken will be compared to the basic knowledge of MOT Master program courses at Nile University. Specifically, applicants should have successfully completed the equivalent of 18-credit hours of MOT-Centered Knowledge courses, 6-credit hours of Knowledge of Corporate Function courses, as well as 12-credit hours of Supporting Disciplines including a research project or a thesis.
- According to the above, the applicants may be asked to take one or more courses of the MOT Masters level at the University, as prerequisites or in parallel with her/his study for the doctoral degree.

Specifically, the application file should include:

- The completed application form including the applicant's personal statement.
- Official degrees and transcripts of all university-level work certified by the granting institution including all degrees (both undergraduate and graduate) previously earned or not completed.
- Applicants for the PhD programs must submit official transcripts of their master's degree certified by the granting institution.
- The official score report of the appropriate entrance examinations.
    A. Applicants who did not complete their tertiary studies at an institution where English is the medium of instruction must take the Test of English as a Foreign Language (TOEFL) or equivalent. Test scores are valid for two years only.
    B. Applicants must submit recent, within five years, Graduate Record Examination (GRE) scores. Students who have completed a graduate degree in the same or in a related area in the last three years are not required to take the Graduate Record Examination, unless it is specifically requested by Admissions Committee.
- A statement of purpose outlining their objectives in joining the program.
- Documentary evidence of their relevant professional experience.
- Two recent passport-size photographs.
- Photocopy of official ID or passport.
- Other requirements as may be specified by the program.
- Application fee as announced by the Financial Department of the University.
- Three recommendation letters and recent Curriculum Vitae.

Admission of a student to Nile University, for any semester, does not imply that such student will be re-enrolled in any succeeding academic semesters. Every applicant for admission can be assured that all credentials will be carefully studied in an effort to select appropriately qualified students. Each application for admission may be examined by faculty members responsible for the graduate program. The Admissions Committee of Nile University may admit a student who does not satisfy all requirements, based on the overall evaluation of the student file, special merit, work experience, and his/her potential for successfully pursuing postgraduate studies.

The Admissions Office is responsible for informing each applicant of the results of his/her application. Applicants for admissions to NU should note the following:

- No action is taken until all required documents are included in the application file and the applicant's file is complete.
- Materials submitted in support of an application are not released for other purposes and cannot be returned to the applicant.

CATEGORIES OF ADMISSION

Students are admitted to NU under any one of the following categories:

Full Admission: Granted to students who have met all admission requirements.

Provisional Admission: Granted for one semester only, to students who have not fully satisfied one or more of the application requirements.

Non-Degree Admission: This category provides an opportunity for graduate study for qualified professionals who do not wish to work toward an advanced degree, but who for professional reasons need to continue to take graduate courses. Students who are applying under the non-degree status must submit all admission requirements outlined earlier. No more than twelve (12) credit hours may be taken while in this status.

A non-degree student may apply for a change of status to a degree student after satisfying all other admission requirements as specified by the Admission Committee. The Program Committee will consider accepting credit for courses taken under the non-degree status at NU but not to exceed 6 credit hours for the M.S degree.

Auditors: Applicants who would like to attend certain classes without earning any credit may apply as auditors. This category of admission is dependent on space availability. Students are not eligible to sit for examinations, submit papers and assignments, earn academic credit and grade, or receive any enrolment certification from Nile University.

RE-ADMISSION

Re-admission may be granted to students in good academic standing who have not been continuously enrolled in regular sessions. Students must contact the Program office three months in advance of registration. If additional college work has been completed elsewhere, since the last enrolment at Nile University, an official transcript will be required.

2. ACADEMIC REGULATIONS FOR GRADUATE STUDIES

REGISTRATION

Upon admission to Nile University, students must register for the courses that pertain to their program of study. However, their enrolment at NU would only be completed after payment of their tuition for the first semester.

FULL-TIME STUDY

Full-time students are graduate students taking nine or more graduate credits in a regular semester.

CREDIT HOURS

Coursework, grading and graduation requirements are all functions of the credit hour. In general, a credit hour represents a one-hour class period and three additional hours of individual study each week for one semester.

CLASS ATTENDANCE

Class sessions and group meetings are considered not only academic but also professional activities. As such, students are expected to attend group meetings and classes, regularly and punctually in order to ensure active and continued engagement in discussions, and to gain rich learning experience.

If a class must be missed, for whatever reason, the student should notify the instructor and the program director, giving as much advance notice as possible. In all cases, it will be the student's responsibility to make up for work missed. Under no circumstances will job interviews, fieldwork for any course, or personal circumstances that are not absolutely exceptional, be accepted as sufficient grounds for absence. Absences, even when justified, may be taken into account in the grading process at the discretion of the instructors, who will keep the program director informed of absences and late arrivals.

If class attendance in any course is less than 80% and with the approval of the instructor, the student will automatically get a maximum grade of C on that course. Exceptions may be given with permission from the instructor teaching that course and the approval of the program director, and the dean upon a prior notification.

Failure to comply with these policies is considered serious misconduct leading to potential dismissal or other action, as deemed appropriate by the instructor, the program director and the dean.

STUDENT EVALUATION IN COURSES

Student evaluation in courses will be based on the following criteria:

- Exams and assignments
- Classroom performance
- Attendance / Participation
- Cases discussions
- Projects / Presentations
- Other criteria that the instructor deems important for the course

EXAMINATIONS

Examinations are an important part of any course and are conducted according to the following standards:

- Students must pass examinations required for the successful completion of a course.
- Students may not communicate or collaborate with each other in any way, or use of cellular phones or the like, during closed-book written examinations and when working on assignments, unless these are explicitly stated as group assignments.
- Books or notes may be used when taking an open-book examination with the specific authorization of the instructor, and then only, within the limits set by the instructor.

GRADING

Nile University uses the credit hour system for its curriculum and has adopted the following grading system for its graduate studies:

Letter Grade	Grade Point Value	Description
A+	4.0	Excellent
A	4.0	Excellent
A-	3.7	Excellent
B+	3.3	Very Good
B	3.0	Good
B-	2.7	Conditional Pass
C+	2.3	Conditional Pass
C	2.0	Conditional Pass
F	0.0	Fail

Grades that will show on the student's transcript but are not included in calculating the GPA are:

I	Incomplete	The student has not completed the course requirements and was allowed a grace period to complete it beyond the end of the semester.
S	Satisfactory	The student is working satisfactorily towards the completion of his/her thesis/dissertation.
US	Unsatisfactory	The student is not working satisfactorily towards the completion of his/her thesis/dissertation.
W	Withdrew	Student withdraws early enough before the instructor can evaluate his/her performance.
WP	Withdrew Pass	Based on the instructor's evaluation, the student's work was satisfactory up till the time of withdrawal.
WF	Withdrew Fail	Based on the instructor's evaluation, the student's work was unsatisfactory up till the time of withdrawal.
P	Pass	This grade is granted for a Pass/Fail course or a thesis.
AU	Auditor	This grade is granted for auditors as a proof for course attendance.

Assignment of grades is the responsibility of the instructor. Based on the above grading system, a grade point average is calculated for each student.

- The Quality Points per course are calculated by multiplying the Grade Point Value obtained in the course by the course's credit hours.
- The Grade Point Average during a specific period is determined by dividing the summation of Quality Points earned during this period by the number of credit hours completed in the same period.
- Cumulative GPA is the summation of Quality Points of all courses divided by the total number of course credit hours completed.

TRANSFER OF CREDIT

Transfer of graduate credit from another institution will not be made until the student has completed a like amount of credit at Nile University, and the transfer has been approved by the supervisory committee and the dean of the school. Credit transferred is subject to the same recency rules as all other credit counted toward the degree, and is also subject to examination by Nile University. An official transcript of work to be transferred must be on file in the Graduate Office.

With the approval of the program director and the respective dean, up to 9 credit hours may be transferred from another accredited institution towards the degree requirements for the Master's program. A grade of "B" or better must be earned in courses considered for transfer. Credits that have been counted towards another degree cannot be transferred.
No more than five years should be elapsed between granting the transferred grade and the admission of the student to the Ph.D. Program.

LEAVE OF ABSENCE

Leave of absence assumes that no scholarly work in connection with the degree is being carried on by the student. Leave may be obtained by petition of the director of the program followed by the approval of the dean.

INCOMPLETE POLICY

Students who prove they have strong reasons for not completing a certain course maybe allowed to petition for an incomplete grade using appropriate forms which must be approved by the course instructor and program director. In this case, students are granted a grade of "I". Students must arrange with the instructor and the program director to complete the pending work before the end of the following semester. In case the student fails to complete the required work, s/he will be automatically granted the grade assigned for the work already submitted.

The "Incomplete Form" is available at the registrar's office, and should incorporate the following information:

- Reason for requesting to incomplete the course.
- Pending materials and assignments required for course completion.
- Tentative grade on the work already submitted.
- Deadline for submission of incomplete work which must not be later than the end of the following semester.

VOLUNTARY WITHDRAWAL FROM COURSE

Students who wish to voluntarily withdraw from courses during the semester must get approvals from their instructors and program directors. If a student applies for withdrawal from a course(s) before the deadline for withdrawal without academic penalty, which is 15% of the course's contact hours, s/he gets a grade of "W" in that course(s). If the student applies for withdrawal from a course(s) after the above mentioned deadline, s/he gets grades of "WP" or "WF" in each course s/he withdrew from, depending on his/her performance in that course.

VOLUNTARY WITHDRAWAL FROM THE PROGRAM

Students who wish to voluntarily withdraw from the program during the semester must get approvals from their instructors and program directors.

If the student applies for withdrawal before the deadline for withdrawal without academic penalty, s/he gets a grade of "W" in all courses during this semester. If the student applies for withdrawal after the above mentioned deadline, s/he gets grades of "WP" or "WF" depending on his/her performance in each course.

Students who have withdrawn from a program and wish to apply for re-admission must do so in writing to the program director, one month in advance of the semester they intend to resume their studies in. The application must explain their activities since leaving the program, and the reasons for wanting to rejoin it. The director will then decide whether or not re-admission is granted, based on the information submitted and the students' performance in the program before withdrawal.

COURSE RETAKE POLICY

Except in cases of academic dishonesty, this policy allows a student who has received a grade less than "C" in a course to retake the same course or a substitute course. In this case, only the grade received when retaking the course will be counted towards the student's GPA. The grade received during the first time the student took the course will show on his/her transcript, but will not count towards the student's GPA. Under this policy, MOT students could repeat up to a maximum of 6 credit hours of course work. According to this policy, the student is allowed to retake the same course or a substitute course upon the approval of the program director.

RE-ADMISSION OF STUDENTS WITH ACADEMIC DIFFICULTIES

Students who were dismissed from the program because of academic difficulties may apply for re-admission if they had completed all the first-year courses with a GPA of 2.50 or higher. Students cannot be readmitted before two years have elapsed since their dismissal, nor after four years since that date. In exceptional circumstances, the minimum period may be reduced to one year.

Students who were dismissed from the program because of academic difficulties in the second year may apply to be readmitted in the term following the one in which the difficulties arose.

The application for re-admission to the program must include a description of the professional activities performed since the withdrawal. Students must also make a compelling argument why they should be readmitted to the program. In any case, the student must take a re-admission examination, and the program director and selected faculty members will then decide on the re-admission applications.

ACADEMIC INTEGRITY POLICY

Nile University, its faculty, staff and students value and adhere to the concepts of academic integrity and the highest level of academic and professional conduct. In their quest for knowledge, the university community must uphold high levels of integrity and ethical conduct in all its pursuits including teaching, learning, research and service.

Dishonesty in the pursuit of knowledge is not acceptable and includes, but is not limited to:

- Dishonest submission of documents for grade, examples: Plagiarizing reports/cases; cheating on exams or assignments; multiple submissions of the same work for grades; fabrication of data or documents.
- Obtaining or attempting to obtain an unfair advantage, examples: Gaining access to exams; stealing or destroying library or research materials; unauthorized collaboration on assignments; unauthorized retention or circulation of previous exams; interfering with other students' work.
- Unauthorized access to records, examples: Viewing or interfering with confidential computer records or programs or systems, releasing unauthorized information gathered.
- Aiding and abetting: Providing material, information, or other assistance which violates standards for academic integrity.
- Threatening, effecting or encouraging bodily, professional, or financial harm to faculty, staff, administrator or student.

The university reserves the right to take disciplinary action against the violating party(s) according to the principles/procedures shown below. An instructor has full authority to deal with an academic dishonesty incident within the context of his/her course. Disciplinary action, in this case, may cover the range from reprimand to "F" for the course grade. The instructor may also recommend suspension or dismissal from the university.

The instructor's action on incidents of academic dishonesty must be communicated to the student(s) involved; and to: the Dean/Program Director and the Vice President for Student Affairs within two weeks of the time the instructor became aware of the incident. All students involved in academic dishonesty will receive an official letter of warning from the Vice President for Student Affairs, a copy of which will remain in the students' file in the department as well as in the Student Affairs Office and/or the office responsible for monitoring academic integrity.

When a case of academic dishonesty is reported with a recommendation for suspension or dismissal from the Instructor, the vice president for student affairs will form an ad-hoc Academic Integrity Committee to investigate the case. The Committee will meet promptly to investigate the case and submit a recommendation to the Vice President for student affairs. The Vice President will send his/her recommendation, together with the committee's, to the President, who makes the final decision on the case.
Once the Academic Integrity Committee has given a hearing to the student and submitted its recommendations, no further appeal may be made unless substantial new evidence is presented to the vice president for student affairs, who will evaluate the evidence and reopen the case, if deemed necessary.

TRANSCRIPTS

Students graduating or withdrawing while in good standing are granted one free transcript of their academic record at NU.

3. ADDITIONAL REGULATIONS FOR DOCTORAL DEGREES

DOCTORAL GRADUATION REQUIREMENTS

To be eligible for graduation, students pursuing a PhD program at NU must complete a minimum of 75% of the credit hours required for graduation at NU and accumulate a GPA of 3.0 or higher in eight- year period. At the end of the first academic year, a committee composed of the program director and selected staff evaluates each individual's GPA, and will discuss with the student any concerns regarding his/her performance and the course of action required by the student for successful completion of the program. This process will be documented and included in the participant's academic file. Typically, a student whose GPA falls below 3.00 is put on probation and is given one semester to correct this discrepancy. If the student's GPA continues to be lower than 3.00 at the end of the probationary period, s/he will be subject to dismissal from the program. However, the student may submit a petition explaining the special circumstances that resulted in his/her low GPA. The student affairs committee reviews the case and may allow the student to register for one last semester, during which s/he must eliminate the GPA discrepancy; otherwise s/he gets dismissed from Nile University.

To graduate, he/she must complete, excluding the dissertation, a minimum of 66 credit hours of course work, beyond the baccalaureate level, or a minimum of thirty credit hours of course work beyond a relevant Master's degree, in addition to a Ph.D. dissertation (equivalent to 24 credit hours), which must be successfully defended.

In addition to the course work, a Ph.D. student has to:

a-Do two seminars about his research problem and findings. The seminar will be attended by NU faculty, students, and external visitors (this is equivalent to 2 credit hours and counted in the research work credit hours)

b- Publish a paper about the research work in a reputable scientific journal

c- According to the advice of the supervisor and the endorsement of the program director, a student may be asked to participate in an internship to enrich his/her practical experience. (This is equivalent to 2 credit hours but not counted in the total credit hours sum)

DURATION

To be eligible for graduation, the student must spend at least two years working towards his Ph.D.; this includes the preparation of his thesis. Student must complete his PhD requirements (including his dissertation) within 8 years since the time of admission .

SUPERVISORY COMMITTEE

The supervisory committee is usually appointed when a student is formally admitted to a doctoral program. It will consist of, not less than, three faculty members.

This committee is nominated by the Dean or the Director of the program or department concerned. It is appropriate for the chairman to consult with the student upon the membership of the committee. The supervisory committee is empowered to plan the course of study for the student; to determine deficiencies, if any; to set prerequisites and other requirements; to request applicable transfer of credit where appropriate, and to make up and administer the qualifying examination.

QUALIFYING EXAMINATION

A written and/or oral qualifying examination is to be taken by each doctoral degree candidate at the time that the student and the supervisory committee deem appropriate. The school or major program may specify that its students must take an oral examination as well. In those cases, normally, the student shall pass the written examination before the oral examination is conducted. Upon completion of the examination process, the supervisory committee shall notify the graduate office and the program that the student has passed or failed the examination. A student who fails the examination will be given one opportunity to retake it, with the permission of the supervisory committee.

DISSERTATION COMMITTEE

When the student passes the qualifying exam, a dissertation committee is formed to advise the student on his dissertation research. This may be the supervisory committee, but it may also be a committee formed anew to undertake the duties of advising and passing upon the dissertation. The dissertation committee is nominated by the department or program concerned, and is approved and appointed by the dean of the graduate studies. It will consist of not less than four members: the chairman and three others. The chairman and at least two of the others should be from the program or relevant other program of NU . The chairman and any two of the other three committee members must be regular members of the faculty. At least one member of the committee would be a professor of relevant specialization from an Egyptian public University. The duties of the dissertation committee are:

- To review and approve the student's dissertation proposal.
- To consult with and to advise students on their research.
- To meet, at intervals, to review progress and expected results.
- To read and comment upon the draft dissertation.
- To meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge, and that it is written in lucid and correct English and submitted in approved form.
- To write the final report regarding the granting of the degree.

The dissertation committee may appoint a dissertation advisor from among its members to closely supervisor the student's progress towards completing the dissertation. The advisor should report to the committee regularly on the candidate's progress to date.

RESEARCH IN RESIDENCE

Once a student has completed all course and required research credits, s/he may enroll in "Research in Residence" status. If the student chooses not to enroll, s/he will be considered on leave of absence until the semester where the dissertation defense takes place. Students must regularly enroll in the university in the semester(s) when their thesis defense and their graduation take place. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the dean of the school. "Research in Residence" students, while not required, may register in any courses or prerequisites that are normally available to graduate students.

RESIDENCY REQUIREMENT

The student must spend at least two consecutive semesters or equivalent beyond the Master's graduate work, wherever taken, in full-time study at Nile University with departmental approval. Students will find that time is an important factor in their progress,

for until the students have reached a satisfactory level of achievement as ascertained by the program; they normally will not be permitted to carry out full-time research. Residence requirements may be altered only by the dean of the school.

ADMISSION TO CANDIDACY

When the student has met all requirements for the degree, passed the qualifying examinations and received approval on his/her dissertation proposal, admission to candidacy for the degree is approved.

Students have to spend at least two academic years as an admitted candidate for the Ph. D. before granting the Degree. This time will be spent to finalize and defend his dissertation

PUBLISHING OF RESEARCH PAPER

It is required that a Ph.D. student has to publish at least one research paper in a relevant field in a reputable peer-evaluation journal or international conference. A student will not be allowed to sit for examining his/her dissertation before providing to the examining committee evidence of acceptance of his research paper.

DISSERTATION

A student must take a minimum of 24 credit hours of dissertation research except where otherwise stated. Not more than 12credit hours of research may be taken in a regular semester and not more than 3 credit hours in a summer session.

No credit is given for research until the dissertation is completed and successfully defended and a grade of "P" is given. Until then, a grade of "S" or “US” is registered, depending on the student’s performance. Credit is not granted for research in residence, but a special fee is charged for each enrollment.

The candidate is well advised to have a final acceptable typescript of the dissertation in the hands of each member of his/her dissertation committee at a time reasonably in advance of the final defense of the work.

In addition to the general rules of the Nile University and MOT program as described above, dissertations will be evaluated in the merits of originality, clarity and extend of contribution to the knowledge and science. It is expected that doctoral dissertations will make significant contributions to the creation of knowledge and the development of theory and practice in a specific area. Performance of the students during the preparation of their dissertations and during the defense sessions, contribute heavily to the evaluation.

After the student carry out any amendments which may have been advised by the dissertation committee and approved by the supervisory committee and/or supervisor(s), the student should submit five copies of the dissertation in approved form on proper paper, one copy on a CD and nine copies of an abstract of not over 350 words will be handed in to the Office of the Graduate Studies on or before the date specified in the calendar published each session, accompanied by 2 certificates of approval of doctoral dissertation defense. It is the duty of the student to acquire a copy of the Guidelines for Preparing Dissertations from the Graduate Office and to conform to the requirements therein.

No student gains the right to be recommended for the degree simply by fulfilling requirements. This right is reserved to the student's dissertationcommittee.

FINAL EXAMINATION / DISSERTATION DEFENSE

A final public oral defense of the dissertation is required. However, none but the members of the dissertation committee may interrogate the candidate. In certain cases, there may be required by the program, a final written "integration examination" to test the candidate's ability to integrate the program and the dissertation in relation to it. These examinations must be held, at least, one month prior to commencement. Upon passing the final exam, students must apply for graduation at the Registrar's Office and pay graduation fees.

RECENCY OF CREDIT

Degree requirements must be completed within eight years of the time of admission to the Ph.D.graduate work, and/or within four years of passing the qualifying examination.

THE MANAGEMENT OF TECHNOLOGY PROGRAM

The Management of Technology is a unique graduate area of study specifically designed for current and future leaders in industry, and services. Nile University is among the very few universities in the developing countries that offer programs in this particular discipline. The programs offer interdisciplinary studies that focus on upgrading the technical and administrative skills as well as the management capabilities of the students. It meshes the scientific essence of technology and engineering, with the art of management. Many developing countries base their socio-economic development efforts on massive imports of technology, mainly in its embodied form as machinery, equipment and products. The pressing need however, is for performing the processes of selecting the most appropriate technology, its acquisition and its deployment, effectively and efficiently. However, the ultimate goal would be raising the indigenous technological capabilities to reach technological innovation at the national level.

The curriculum of the Programs of Management of Technology addresses the stages of the technology management process methodically, introducing the various tools and techniques that lead to success. Delivery systems encourage continuous self-learning, clear and critical thinking and interaction with real life situations in business enterprises in the country. Classes are characterized by an emphasis on interactive learning, by implementing the advanced teaching methodologies at Nile University which leans heavily on using case studies and student's research presentations.

The study is well balanced and flexible, including core, and supportive specialized courses, as well as guided self-studies and research work. The core courses include management of technology-centered knowledge. The electives include courses addressing the knowledge of corporate functions. A third group of electives focuses on technology-centered knowledge and supportive tools. Post-graduate students must do Research Projects, theses, or dissertations depending on their goal of study.

The MOT programs are designed according to the international accreditation guidelines established by the International Association for Management of Technology (IAMOT).

Practitioners and professors from highly developed countries are invited to share their field experience with the students. Moreover, the program gives the students a wide chance to have hands-on experience by practicing in work places that are relevant to their studies.

The M.Sc. & Ph.D. programs in Management of Technology illustrate, at different levels of depth, the merging of business and technology in all industries and provide graduates the critical skills for future success. It equips students with the confidence and the competence to initiate, to anticipate, and to respond to the fast-evolving technological advances that define today's business landscape.

Students are encouraged to bring their research problems from their workplace, or to choose a relevant research topic that reflects on the performance of their institution as well as reflects on their personal career.

Nile University is proud of its commitment to excellence in education. The Management of Technology Programs capitalizes on the strengths of the University in business,

management, and technology, to provide unique and challenging post-graduate programs that respond to today's technology-reliant world.

PROGRAM DESCRIPTION

Management of Technology (MOT) is a unique and vital field of study and research that focuses on technology and innovation as key to wealth creation, competitiveness and sustainable economic and social development. The program prepares professionals capable of integrating knowledge of science, engineering, business and technology strategies to master the process of guiding creativity, R&D, product development, commercialization and the management of all technological resources for sustainable development. Courses offered stress the importance of understanding the accelerating rate of change, uncertainty and dynamics of the innovation process. They are designed to cover theoretical foundations and practical applications that equip students with the necessary skills related to managing technological resources at the macro-level of countries as well as the micro-level of an organization.

NU teaching philosophy relies heavily on student self-initiative, self-study, and understanding. It is meant to widen their horizons, inflame their intellects, and teach them to think and to look for information and knowledge.
The courses at NU involve mixture of lectures, class discussions, group exercises, and cases analysis. Students are expected to complete all assignments and be prepared to discuss them in class. Participation in class discussions is important and enters into total evaluation. Preparation includes reading, online search, and personal observations.

The Ph.D. program focuses on the bases and methodologies of scientific research, in order to contribute effectively to the science and knowledge in the field of Management of Technology. Management tools and business ethics are emphasized throughout the program.

Curriculum has been benchmarked against best universities worldwide having similar programs. (List is attached)

PROGRAM OUTCOMES:

This Ph.D. program will expose students to a broad set of issues and provide the opportunity for the student to acquire more depth in the subject matter. It will also provide a strong research experience in their dissertation affording the student to innovate and extend the knowledge-base in the area of her/his specific interest. The Ph.D. program also contains elements of overseas residence/field experience in a research institution and/or multinational organization as available.

ACADEMIC LOADING AND PROGRAM CURRICULUM

- The Ph.D. in MOT requires completing at least 28credit hours of course work-beyond a relevant Master degree- in addition to a seminar (2 credit hours) and a dissertation research (equivalent to 24 credit hours). Student should satisfy the entry requirements of MOT academic requirements for admission to Ph. D. program as stated before.
- The Ph.D. program content is divided into four focus areas: the first covers the

Management of Technology-Centered Knowledge (15 cr. hrs). This focuses on the management procedures associated with the exploitation of technological resources. The second covers Knowledge of Corporate Functions (4 cr. hrs). It focuses on basic business functions in an organization. The third area covers Technology-Centered Knowledge which is related to specific technology field or critical technology required for the specialization (9 cr. hrs). The fourth area focuses on research activities including research seminars (2 cr. hrs.), an optional graduate internship (equivalent to 2 cr. hrs.), and a dissertation (equivalent to 24cr. hrs.).

- Subject to the consent of her/his supervisor and program director, it would be possible for a Ph.D. candidate, to choose one or more courses from the MOT Master Program courses as prerequisites, to satisfy the entry conditions to Ph.D. in MOT. The credit hours of these courses will not be considered as part of the 30 credit hours of the Ph.D. course work.
- Furthermore, the admission committee may ask applicant to enter into Graduate Internship during the course of study if it decides that he needs more practical experience. (it will not be considered as part of the 30 credit hours of the Ph.D. course work).

The detailed curriculum for the Ph.D. degree is shown below:

Table 2: Requirement for the Ph.D. degree in MOT

Courses	Cr hrs	Pre-requisite
Core Courses (15credit hours)		
MANAGEMENT OF TECHNOLOGY-CENTERED KNOWLEDGE		
MOT 651 Emerging Technologies &Advanced MOT	3	
MOT 652 Road Map of Technology Development	3	
MOT 653 Technology Transfer & Acquisition	3	
MOT 654 Advanced Knowledge Management and Innovation	3	
MOT 655 Design of Experiments	3	
Required Collateral (4 credit hours)		
KNOWLEDGE OF CORPORATE FUNCTIONS		
FINC 609 Financial Economics	2	
BSAD 601 Business Ethics	2	
BSAD 603 Corporate Strategies and International Competitiveness	2	MKTG 601
MKTG 605 Marketing Strategies	2	
ECON 605 Emerging Economies	2	
Recommended Electives (9 credit hours)		

TECHNOLOGY-CENTERED KNOWLEDGE		
MOT 661 Quantitative Analyses for Managers	3	MOT 606
MOT 662 Advanced Production Engineering Management	3	
MOT 663 Multivariate Analysis and Stochastic Models	3	MOT 606
MOT 664 Systems Modeling and Simulation	3	MOT 606
MOT 665 Parametric and Non-Parametric Statistics	3	MOT 606
MOT 666 Supply Chain Management	3	
MOT 671 Contemporary Issues in Information Technology	3	
MOT 667 Project risk assessment and management techniques	3	
MOT 668 Advanced topics in Quality, Reliability and Maintainability	3	*
MOT 669 Advanced Topics in Management of Technology	3	*
MOT 670 Directed Advanced Studies	1,2,or 3	
Thesis, Seminar,& Internship (26 credit hours)		
MOT 672 Research Seminars	2	
MOT 673 Graduate Internship (equivalent to 2 credit hours) **	2	*
MOT 690 Ph. D. Dissertation	24	MOT 606

* consent of the instructor
** not counted in the total sum of credit hours

Course Descriptions for the Ph. D. Degree in Management of Technology

A- MANAGEMENT OF TECHNOLOGY-CENTERED KNOWLEDGE

MOT 651 Emerging Technologies & Advanced MOT, 3 cr. hrs.
This course discusses emerging technologies, their evolvement, the effect of international, political, social, economic and cultural factors. Topics covered in the course include accuracy in forecasting of past technologies, how to improve them, international perspective on emerging technologies, future customer trends and forecasting methodologies. Emerging technologies will be examined through students' company examples, invited speakers and videos. The management process with the rapid change in technology, customer demands, industrial advancing processes, socio-economic aspects, and environmental considerations will be discussed.

MOT 652 Road Map of Technology Development, 3 cr. hrs.
Technology Road Mapping is a needs-driven technology planning process to help identify, select and develop technology alternatives to satisfy identified business concerns and

needs. “Technology development Road Mapping” (TRM) is a strategic technology planning process for research and development that cooperatively identifies: 1) a particular industry's common product and process performance targets, 2) the technology alternatives and milestones for meeting these targets and 3) a common technology path for research and development activities. This course discusses the applications and benefits of TRM and how to identify alternate technology paths for meeting defined performance objectives.

MOT 653 Technology Transfer & Acquisition, 3 cr. hrs.
To provide the students with the knowledge of rules, techniques, steps, and alternative methods to select, procure, transfer and acquire a technology. The course explains and discusses the different levels of considerations to select a particular technology from alternatives. It identifies the different routes through which a firm can acquire needed technologies. It provides a framework that helps in making key decisions about technology acquisition. Different forms of technology and its embodiment (e.g. patents, know-how, equipment,…) will be dealt with in addition to their markets, pricing, their negotiation particularities, contracting procedures, and implementation.

MOT 654 Advanced Knowledge Management and Innovation, 3 cr. hrs.
The course chronicles the value that innovative organizations find in better managing the flow and re-use of their knowledge, and effective practices to enhance knowledge, create and re-use for innovation. It discusses how, by managing knowledge, organizations can succeed in innovations and new product development. It addresses structural and cultural barriers to knowledge management (KM) to technical and research settings. It focuses on how leaders can overcome barriers by supporting the adoption of new behaviors and promote collaboration and knowledge sharing among their employees.

MOT 655 Design of Experiments, 3 cr. hrs.
Pre-requisites: MOT 606 – Research Methods and Advanced Statistics or consent of the instructor.
This course introduces the basic definitions, aspects of quantification, and how to identify the purpose and principles involved in the experiments. It discusses how to plan the experiment, including defining the problem, stating the hypotheses, and design the experiment in statistical terms. A crucial part of the work is how to plan the experiment in statistical term. The course includes: full and fractional factorial design, hypotheses testing (t-test and F-tests), single factor experiments and ANOVA, residual analysis and normal probability plots, analyzing designs and transforms, response surface designs, hill climbing strategies, and mixture designs.

B- KNOWLEDGE OF CORPORATE FUNCTIONS

FINC 609 Financial Economics, 2 cr. hrs.
The course is intended to provide students with the latest advances in concepts and principles of finance, investments and economics. Investments will be examined as opportunities that need to be scientifically evaluated. Finance will be treated as a way of raising funds to finance investment opportunities. The economics environment and its impact on the investments valuation and financing will be treated in detail. The course provides an

opportunity for participants to use tools such as spreadsheets in a financial and economic modeling.

BSAD 601 Business Ethics, 2 cr. hrs.
This course emphasizes the importance of making business decisions in the light of moral principles and corporate social responsibility. It aims to introduce and familiarize students with the different ethical issues facing today businesses in order to help them develop appropriate organizational responses to such issues. The course examines frequent conflicts that may arise in conducting business activities such as employee rights, customer rights and how to deal with competition. Topics covered include free market and regulation, corporate strategy and stockholder relations, product testing and safety measures, racial and gender discrimination, etc.

BSAD 603 Corporate Strategies and International Competitiveness, 2 cr. hrs
This course is concerned with answering the question: "What industries/businesses should we participate in?" Drawing from relevant conceptual frameworks and real-life cases, this course initiates students to the latest methodologies for developing corporate strategies meant to improve the firm's local and international competitiveness. Students will be exposed to analytical techniques for diagnosing the competitive position of a business and assessing alternative strategic directions. Topics include strategy development processes, strategic position analysis, strategic visioning, choosing a strategic direction, reasons for diversification, vertical moves, and portfolio matrices.

MKTG 605 Marketing Strategies, 2 cr. hrs
Prerequisite: *MKTG 601 or consent of the instructor*
The course focuses on integrating the organizational mission and strategy with the development of strategic marketing plans. It covers planning units, branding, situational analysis, target markets, positioning, and global impacts. It evaluates the different variables affecting marketing plans from a managerial perspective.

ECON 605 Emerging Economies, 2 cr. hrs
The aim of this course is to develop the analytical skills required to understand current issues and policy debates regarding emerging markets. To achieve this goal the course provides a blend of theory and policy discussions. Theoretical analysis will pinpoint relevant variables and their interaction; while policy discussions will apply the analytical tools to real world events and problems.

C- TECHNOLOGY-CENTERED KNOWLEDGE& SUPPORTING DISCIPLINES

MOT 661 Quantitative Analyses for Managers, 3 cr. hrs.
Pre-requisites: MOT 606 – Research Methods and Statistics or consent of the instructor.
This course introduces the student to the techniques of mathematical programming for linear and non-linear optimization. The course discusses the various methods and models for linear programming and integer linear programming, and some coverage of non-linear methods. Probability theory and distributions are discussed and combined with decision analysis and making processes. The course exposes the students to simulation, Markov processes, and multi-criteria decisions

MOT 662 Advanced Production Engineering Management, 3 cr. hrs.

This course introduces the students to the advanced production engineering management, how the firms can benefit and enhance its competitiveness, the adoption of Advanced Manufacturing Technologies (AMT), the way that firms should plan for and implement them, and their eventual performance. It will expose the students to advanced concepts in production engineering, design and innovation lifecycle management.

MOT 663 Multivariate Analysis and Stochastic Models, 3 cr. hrs.
Pre-requisites: MOT 606 – Research Methods and Statistics or consent of the instructor.
In the first part, the course includes: Experimental design, statistical estimation and hypothesis testing from multivariate distribution. Topics covered will include: regression models, multivariate analysis of variance, canonical correlations, classification procedures and factor analysis. Computer applications of these techniques will be examined. In the second part, the course covers an introduction to the probabilistic and statistical concepts used in the day- to-day decisions of the probabilistic (stochastic) models that are frequently used in managerial decision making in problems that include uncertainties.

MOT 664 Systems Modeling and Simulation, 3 cr. hrs.
Pre-requisites: MOT 606 – Research Methods and Statistics, or consent of the instructor.
The course covers the art and science of modeling and simulation in engineering /business and IT. This course blends theory with practice presenting actual applications in manufacturing as well as business and services. The course addresses the classical methodology and techniques with emphasis on discrete systems modeling and simulation. Topics include major aspects of modeling and techniques of simulation, planning data collection and analysis, model building model verification and validation, output analysis and experimental design. It also covers simulation optimization techniques, model verification and validation. Analysis of queues, arrival and service patterns, random number generation, and simulation programming techniques will be discussed.

MOT 665 Parametric and non-Parametric Statistics, 3 cr. hrs.
Pre-requisites: MOT 606 – Research Methods and Statistics, or consent of the instructor.
This course describes and compares parametric and non parametric statistics. Models of both types are discussed and compared. The course includes: Chi-square distribution, Chi-square goodness-of-fit test for equal & non-equal expected frequencies, contingency table, nominal level of measurement, nonparametric or distribution-free tests, Kruskal-Wallis one-way analysis of variance by ranks, sign test, Spearman's coefficient of rank correlation, Wilcoxon matched-pair signed-rank test, and Wilcoxon rank-sum test

MOT 666 Supply Chain Management, 3 cr. hrs.
Supply Chain Management is a business model necessary for an organization's success and everyone in the organization needs to be involved. This course introduces the concepts of logistics and supply chain management. It discusses the complexity created by ever increasing customer requirements and expectations, globalization, the pressure on cost, and the availability and access to resources. It explains how successful supply chain management requires cross-functional integration within the firm and across the network of firms that comprise the supply chain. It focuses on the improvements in performance that result from better management of key relationships.

MOT 671 Contemporary Issues in Information Technology, 3 cr. hrs.

This course investigates a number of contemporary issues in the rapidly changing information technology environment. Considerations of social and ethical issues in information technology. It also investigates in depth a number of topical theoretical issues and practical information technology tools and broadens students' perspective and skills. It includes: The effects of information technology on society, organizations, communities and individuals, Ethical behavior of information technology professionals, Contemporary theoretical issues. Examples include the digital divide, biotechnology, optical and quantum computing, computer human interfaces and the limitations of computing, as well as Contemporary information technology tools and techniques.

MOT 667 Projects Risk Assessment and Management, 3 cr. hrs.
This course introduce the students to the risks that affect the performance objectives across all organizational activities, whether these be strategic, program, project or operational. It gives the students a useful insight of the concepts, processes, and methods of risk management in projects and the inextricably link between value management and risk management. The student will gain the skills of putting in place effective framework for taking informed decisions about risks. It provides a rout map for risk management, bringing together principles, approaches, and processes. It provides the necessary tools to apply risk management in projects.

MOT 668 Advanced topics in Quality, Reliability and Maintainability, 3 cr. hrs.
The course introduces the concepts of quality and total quality management and their applications. It also covers Quality models, International standards (ISO 9000) series and its applications in industrial field, Statistical Process Control (SPC), and practical applications of total quality management. This course, also, introduces concepts, principles and techniques used in evaluation and assessment of reliability, maintainability and serviceability in industrial systems. Emphasis is given to theory and techniques to determine time-to-failure, failure rate, reliability and availability of components/systems, including strength-stress analysis, construction of reliability bath-tube curves (RBTC), failure mode and strength-stress analysis (FMEA), fault tree analysis (FTA).

MOT 669 Advanced Topics in Management of Technology, 3 cr. hrs.
Pre-requisites: Consent of instructor.
This course is tailored to expose students to the latest advances in fields that are related to their specialization in management of technology, and/or to focus on a specific area of particular interest to the discipline. Course contents may vary from term to term to address emerging subjects.

MOT 670 Directed Advanced Studies, 1,2, or 3 cr. hrs.
Pre-requisites: Consent of instructor.
In this course, students follow in-depth directed study in a given topic or field of their choice under the close supervision of a faculty member. The topic should be of advanced nature, perhaps in emerging technologies or alike. A student may repeat the course for credit provided that the topic or field of choice is different. Repeating the course for credit requires the approval of the program director.

THESIS, SEMINARS & INTERNSHIP

MOT 672Research Seminars, 2 cr. hrs.

The Ph.D. student will do at least two research seminars on advanced topics related to MOT. Topic will be chosen by the student and approved by his supervisor. Topic could be related and/or complementary to her/his dissertation. Seminars will be attended by University faculty, students and external audience.

MOT 673Graduate Internship, 2 cr. hrs.

Pre-requisites: Consent of instructor

The graduate internship is designed to provide doctoral students with more opportunity to test and experiment in industry, research organizations, government agencies, and other appropriate experiential venues associated with technology utilization, transfer, and innovation for the explicit purpose of developing knowledge in the specialization. A personal assessment portfolio will be developed as part of the internship experience. The internship experience is to provide an opportunity for the doctoral student to test relevant theories linking the university experience to a process of technological transfer and/or development. The internship shall be tailored to be supportive of the major area of specialization.

MOT 690 Ph. D. Dissertation (24cr. hr.)

Pre-requisites: MOT 606– Research Methods and Statistics or consent of the instructor.

Regulations and rules of the Ph. D. dissertation are described above.

FACULTY AND STAFF OF THE SCHOOL OF MANAGEMENT OF TECHNOLOGY

Faculty:

Name	Position	Status	Specialization	Institution
Dr. Tarek Khalil	President – Professor	Full Time	PhD in Industrial Engineering	Texas Tech, USA
Dr. Hassan Ali	Dean of School of Business, Professor	Full Time	PhD in Economics	Southern Illinois University USA
Dr. Esam Roushdy	Industrial and services Engrg program Director-professor	Full Time	PhD in Industrial Engineering	Purdue University, USA
Dr. Yasser Hosni	Visiting Professor	Part Time	PhD in Industrial Engineering	University of Arkansas, USA
Dr. Mohamed Mamdouh Awny	MOT Program Director – Associate Professor	Full Time	PhD in Mechanical Engineering	University of London, UK
Dr. Ahmed Deif	Industrial Engineering Professor	Part time	PhD in Industrial Engineering	University of Windsor - Canada
Dr. Ibrahim Saleh	School of Business Associate Professor	Full Time	Communication and Development	Cairo University Egypt
Dr. Sally Kassem	Industrial and services Engrg Associate Professor	Full Time	PhD in Industrial Engineering	Concordia University USA
Dr. Ahmed Azab Ismael	Industrial Engineering Associate Professor	Part Time	PhD in Industrial Engineering	Windsor University Canada
Dr. Ashraf Sheta	Assistant Professor	Part Time	DBA	Arab Academy for Science & Technology
Dr. Hassan Ali	Dean of School of Business Professor	Full Time	PhD in Economics	Southern Illinois University USA
Dr. Mohamed Gad	Professor of Industrial Engineering and	Part time	Ph.D. in Industrial Engineering	Mc Master University, Canada

	Operations Research			
Dr. Bahgat El-Dahesh	Chief Technology Officer, Universal Group, Egypt	Part time	PhD in Mechanical Power Engineering	Alexandria University, Egypt
Dr. Mohamed O. Ezzat	MOT Program Professor	Full time	PhD in Industrial Engineering,	Texas Tech University, Lubbock, Texas, USA
Dr. Mohamed El Mekky	Industrial and services Engrg Professor	Full Time	PhD in Industrial Engineering	Germany

Affiliated Faculty: (Professors affiliated with Nile University for both teaching and supervision of research work.)

Dr. Frederick Betz Professor	Graduate School of Management and Technology	Maryland University College	USA
Dr. David Bennet	Technology Management Professor	Chalmers University of Technology	Sweden
Dr. Massoud Amin Professor	Electrical& Computer Engineering	University of Minnesota	USA
Dr. Mario Yanz Assistant Professor	School of Business	University of Miami	USA
Dr. Alex Brem professor	Chair of Technology Management Department	Friedrich-Alexander Universitat-Nurnberg	Germany
Dr. Laure Murel	Director of ERPI Professor of Industrial Engrg	University of Lorraine	France
Dr. Mauricio Camargo	Innovation Engrg specialist Professor of Industrial Engrg	University of Lorraine	France
Dr. Prasanta Kumar De, Professor	Executive Director	International School of Business & Media	India

Coordinator of the program of Management of Technology:
Engineer Reham Nasr,

Assistant to the Dean of Graduate Studies:

Ms. Jilan Hassan

Visiting Faculty

In order to enrich the education activities, Nile University is recruiting foreign faculty members from USA and Europe for teaching specific courses as international partners. Presently MOT at Nile University is collaborating with Minnesota's Primary Research University, the University of Minnesota's Center for Development of Technological Leadership, University of Central Florida, University of Miami, and University of Southern Denmark.

Attachment 1

Benchmarking: List of reviewed universities having similar studies

The courses for Master's and Ph.D., degrees are well chosen guided by similar Graduate Study programs in Management of Technology delivered by recognized and accredited Universities in USA and Europe. Among these universities are:

Arizona State University
University of California at Berkeley
Birkbeck University of London
Brandies University
Brunel University, UK
Central Connecticut State University
Colombia University
Ecole Polytechnique de Montréal
Florida Institute of Technology
Lehigh University
Massachusetts Institute of Technology (MIT)
North California State University
Oklahoma State University
Portland State University
Stevens Institute of Technology
The School of Technology and Management, UK
University of Cambridge, UK
University of Greenwich, UK
University of Illinois
University of Kansas
University of Miami
University of Minnesota
University of Phoenix
University of Washington
University of Wisconsin
Vanderbilt University
York University

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