



UNIVERSITÀ DEGLI STUDI DI PALERMO

Department: null

A.Y. 2009/2010

DEGREE COURSE IN MANAGEMENT ENGINEERING - MANAGEMENT ENGINEERING - PALERMO -

Characteristics



Class of Bachelor's Degree
(BSc) on Industrial
engineering (L-9)



3 YEARS



PLANNED ACCESS



2094

Educational objectives

The growing complexity and dynamicity of the competitive system, in the age of globalisation and knowledge requires a new type of professionals, capable of facing issues in an interdisciplinary, flexible and innovative way. Management engineers are an answer to the needs of new markets, and they are always more appreciated and required both by companies and by public administrations.

Management engineering deals with the solution of technical, economical, operational and organisational problems in the processes of production and consumption of goods and services, through the use of solving methods and capabilities which are typical of engineering. Management engineers, in their activity, use the quantitative tools, decision supports and methodological rigour typical of engineering sciences, aiming at optimizing solutions. The engineering vision and method applied to managerial and organisational issues enable the achievement of a higher efficiency and effectiveness level of solutions, contribute to a better understanding of business phenomena, facilitate the identification and control of the most significant decisional variables in various business processes, set the bases for the continuous improvement of business outcomes based on measurable parameters and, eventually, are suitable to build well structured relations among the various business functions and among companies. The education of an operational engineer is based upon a sound grounding in disciplines such as mathematics, physics, economics, statistics, operations research, computer science as well as upon the planning capabilities typical of the most important engineering disciplines. Among these latter, particularly important are the disciplines related to the sectors of processing technologies and systems, of industrial plants and economic-operational engineering.

The degree course in Management Engineering of the University of Palermo has got a well-established tradition in the field of Operational Engineering; actually, the Degree Course in Industrial Technologies with Economic-Organisational specialisation was started in Palermo in 1980, and subsequently transformed into the Degree Course in Operational Engineering.

The 1st cycle Degree Course is not divided in curricula or specialisations; it possess a strong matrix based upon production and logistics management, in accordance with the history and tradition of operational Engineering in Palermo.

The 1st cycle Degree Course is focused on the principles of functioning, design and modelling of production and logistic systems, upon their technological groundings, with the due attention to the relevant economical aspects. The Degree Course sets the bases for the quantitative and economical analysis of production processes of goods and services, providing knowledge and professional know how for the management, implementation and improvement of these processes.

The Degree course is divided into 4 blocks of subjects:

- Core engineering disciplines: mathematical analysis and geometry (Calculus I and II), Physics (Physics I and II), and Chemistry;
- Core educational disciplines of operational engineering: Economics, Business economics, Statistics, Operation research, business information systems;
- Core industrial engineering disciplines industrial design, electrical engineering, technical physics and construction theory;
- Characterising disciplines: mechanic technology, general technologies of materials, industrial production management, quality management and product design, industrial plants.

Professional opportunities

An article by "Corriere della Sera", (31/03/2006) gives an excellent description of the profile of an operational engineer: "an engineer-manager with high technical-scientific competence, capable of managing financial and technological companies or

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to be present in the market of high level business consultants".

The operational engineer is an answer to the always more needed cross skills. He/she represents a polyhedral professional profile, with sound technical and methodological bases who, thanks to the engineering approach to managerial and organisational issues, has a deep understanding of business phenomena. For these reasons, there is a wide range of professional opportunities for graduates in operational engineering: from industrial to service companies, public administrations and finance. Operational Engineers are particularly required in the field of consultancy, where they act as private practitioners and they possess also adequate grounding for starting successfully entrepreneurial activities.

A national survey published in 2004 by ISTAT (Italian Institute for Statistics), about all degree courses of all Italian Faculties, placed Operational Engineers at the first place for career perspectives, based on the average waiting time for the first employment, on the ratio of graduates employed within three months from graduation and on the stability employment. 89% of graduates find a job within three years from graduation.

The Degree Course in Operational Engineering pays a particular attention to professional opportunities for graduates.

In accordance with a survey carried out by the Degree Course through a customer satisfaction questionnaire since 2005 (a140 1st cycle graduates), 91% of 1st cycle graduates continue their studies with 2nd cycle courses. This value is higher than the national value for

Engineering, which, according to ALMA Laurea was about 75, 7% in 2006.

With respect to professional opportunity, the survey carried out in 2008 among 1st cycle graduates who decided to enter the labour market showed that:

- About 87% of graduates access the labour market in less than one year after graduation;
- 57% of them are employed at a company
- Management engineers, thanks to the generalist training they receive, find professional opportunities in manufacturing companies, consulting firms, utilities, public services, healthcare, banks, etc... with different functions;
- 100% of the interviewees declared their degree is indispensable or at least useful for their professional activity
- 75% of the interviewees are satisfied with their job, even if most of them are only partially satisfied

Final examination features

Students must prepare and discuss a degree dissertation, awarded with 3 credits. The dissertation is usually prepared in collaboration with companies. Candidates should prove they have achieved the qualifying objectives of the training of management engineers.

| Subjects 1 ° year | CFU | Sem. | Val. | SSD | TAF |
|--|-----|------|------|--------------------|-----|
| 01745 - CALCULUS 1 <i>Pavone(PA)</i> | 9 | Ann. | V | MAT/05 | A |
| 06502 - MANAGEMENT INFORMATION SYSTEMS <i>Seidita(PA)</i> | 6 | Ann. | V | ING-INF/05 | C |
| 03295 - PHYSICS 1 <i>Raso(PO)</i> | 9 | Ann. | V | FIS/01, FIS/ 03 | A |
| 01735 - CALCULUS 2 <i>Caggegi(PA)</i> | 9 | Ann. | V | MAT/05, MAT/03 | A |
| 01788 - CHEMISTRY <i>Galia(PO), Scialdone(PO)</i> | 9 | Ann. | V | CHIM/07 | A |
| 02605 - COMPUTER AIDED DESIGN <i>Ganci(PQ)</i> | 9 | Ann. | V | ING-IND/15 | B |
| 07870 - PHYSICS II <i>Raso(PO)</i> | 6 | Ann. | V | FIS/03 | A |
| 04677 - ENGLISH LANGUAGE | 3 | Ann. | G | | E |

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| Subjects 2 ° year | CFU | Sem. | Val. | SSD | TAF |
|---|-----|------|------|------------|-----|
| 02965 - ELECTRICAL DEVICES AND CIRCUITS <i>Buccheri(PQ)</i> | 6 | Ann. | V | ING-IND/31 | C |
| 07353 - GENERAL TECHNOLOGIES OF MATERIALS <i>Barcellona(PA)</i> | 6 | Ann. | V | ING-IND/16 | B |
| 06313 - MECHANICS OF MATERIALS AND THEORY OF STRUCTURES <i>Ruisi(PA)</i> | 9 | Ann. | V | ICAR/08 | B |
| 03318 - TECHNICAL PHYSICS <i>La Rocca(CU)</i> | 6 | Ann. | V | ING-IND/10 | C |

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| Subjects 2 ° year | CFU | Sem. | Val. | SSD | TAF |
|---|-----|------|------|------------|-----|
| 02795 - ECONOMICS FOR ENGINEERS <i>Abbate(RU), Perrone(PO)</i> | 9 | Ann. | V | ING-IND/35 | B |
| 06644 - STATISTICS <i>Lombardo(PO)</i> | 9 | Ann. | V | SECS-S/02 | A |
| Free subjects | 12 | | | | D |

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| Subjects 3 ° year | CFU | Sem. | Val. | SSD | TAF |
|--|-----|------|------|------------|-----|
| 03867 - INDUSTRIAL PLANTS <i>Galante(PQ)</i> | 9 | Ann. | V | ING-IND/17 | B |
| 07324 - MECHANICAL TECHNOLOGY <i>Di Lorenzo(PO)</i> | 9 | Ann. | V | ING-IND/16 | B |
| 06263 - OPERATIONS RESEARCH <i>Bauso(PA)</i> | 9 | Ann. | V | MAT/09 | A |
| 01192 - OTHER EDUCATIONAL ACTIVITIES | 3 | Ann. | G | | F |
| 02704 - BUSINESS ECONOMICS <i>Noto La Diega(PQ)</i> | 9 | Ann. | V | ING-IND/35 | B |
| 03724 - PRODUCTION & OPERATIONS MANAGEMENT <i>La Commare(PO)</i> | 9 | Ann. | V | ING-IND/17 | B |
| 12690 - QUALITY MANAGEMENT AND PRODUCT DEVELOPMENT <i>Di Lorenzo(PO), Passannanti(PO)</i> | 12 | Ann. | V | ING-IND/16 | B |
| 05917 - FINAL EXAMINATION | 3 | Ann. | G | | E |

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