

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2nd cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering / Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|---|----------|--|----------|----------------------------|-----------|--------------------|------------|
| 2.1 Name of the subject | | Advanced management methods | | | | | |
| 2.2 Holder of the subject | | Assoc.prof. PhD eng.ec. Liliana Doina M gdoiu | | | | | |
| 2.3 Holder of the academic seminar/laboratory/project | | Assoc.prof. PhD eng.ec. Liliana Doina M gdoiu | | | | | |
| 2.4 Year of study | I | 2.5 Semester | 1 | 2.6 Type of the evaluation | Ex | 2.7 Subject regime | THD |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|-----------|---|-----------|
| 3.1 Number of hours per week | 4 | of which: 3.2 course | 2 | 3.3 academic seminar/laboratory/project | 2 |
| 3.4 Total of hours from the curriculum | 56 | Of which: 3.5 course | 28 | 3.6 academic seminar/laboratory/project | 28 |
| Distribution of time | | | | | 68h |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 30 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 10 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 20 |
| Tutorials | | | | | |
| Examinations | | | | | 9 |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 69 | | | | |
| 3.9 Total of hours per semester | 125 | | | | |
| 3.10 Number of credits | 5 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--|
| 4.1 related to the curriculum | Knowledge of the General Management course |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|---|---|
| 5.1. for the development of the course | - attending at least 50% of the course - the course can be held face to face or online |
| 5.2. for the development of the academic seminar/laboratory/project | - Mandatory attendance at all seminars; - Students come with observed seminar papers - A maximum of 3 seminars can be recovered during the semester (30%); - Attendance at seminar hours below 70% leads to the restoration of the |

| | |
|--|--|
| | discipline - The seminar can be held face to face or online |
|--|--|

6. Specific skills acquired

| | |
|---------------------|---|
| Professional skills | <p>C1. Knowledge of the main types of processes and phenomena of economic communication, of the theoretical elements of microeconomics and practical aspects regarding the economic-financial flows at business level</p> <p>C4. Development and evaluation of technical, economic and financial flows at business level, advanced management methods</p> |
| Transversal skills | <p>TC3. Identifying opportunities for continuous training and efficient use, for one's own development, of information sources and of communication resources and assisted professional training (Internet portals, specialized software applications, databases, online courses, etc.) both in Romanian, as well as in a language of international circulation.</p> |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|--|
| 7.1 The general objective of the subject | Familiarization of students with the main management methods in emergency situations |
| 7.2 Specific objectives | <p>The course aims to present the theoretical elements of the emergency situation in case of fire</p> <p>The seminar familiarizes students with practical aspects of operational interactions for change management in a complex context</p> |

8. Contents*

| 8.1 Course | Teaching methods | No. of hours/ Observations |
|---|--|-------------------------------|
| Chapter 1. Fire - phenomenon - event | Free exposure, with the presentation on-line | 2 h |
| Chapter 2. Fire safety performance a constructions | Free exposure, with the presentation on-line | 2 h |
| Chapter 3. Methods for calculating the load and thermal density of fire | Free exposure, with the presentation on-line | 2 h |
| Chapter 4. Technical causes of fire - their establishment and research | Free exposure, with the presentation on-line | 4 h |
| Chapter 5. Technical fire prevention systems | Free exposure, with the presentation on-line | 2 h |
| Chapter 6. Technical fire extinguishing systems | Free exposure, with the presentation on-line | 4 h |

| | | |
|---|--|-------------------------------|
| Chapter 7. Fire risk management | Free exposure, with the presentation on-line | 4 h |
| Chapter 8. Methods of identification and assessment of fire risk | Free exposure, with the presentation on-line | 2 h |
| Chapter 9. Fire defense management in a goal | Free exposure, with the presentation on-line | 2 h |
| Chapter 10. Control of fire prevention and extinguishing installations | Free exposure, with the presentation on-line | 2 h |
| Total | | 28 h |
| Bibliography 1. Crăciun, Ionel, Managementul situațiilor de urgență , Vol. II, Editura Bren, București, 2006 2. Crăciun, Ionel; Udor, Aurel, Riscuri generatoare de situații de urgență și managementul riscurilor de incendiu , Editura Stadiform, București, 2009 3. Bălulescu, Pompiliu; Crăciun, Ionel, Agenda pompierului , Ediția a II-a revizuită și adăugită, Editura Imprimeriei de Vest, Oradea, 2009 4. Crăciun, Ionel, Servicii de urgență , Editura Contrast, București, 2009 5. Calotă, Sorin ș.a., Manualul pompierului , Editura Imprimeriei de Vest, Oradea, 2009 6. Crăciun, Ionel; Calotă, Sorin; Lencu, Victor, Stabilirea și prevenirea cauzelor de incendiu , Editura Tehnică, Ediția a II-a, București, 2001 7. Bălulescu, Pompiliu; Crăciun, Ionel, Agenda pompierului , Editura Tehnică, București, 1993 8. Bălulescu, Pompiliu; Călinescu, Vasile, Instalații automate de detectare și stingere a incendiilor , Editura tehnică, București, 1977 9. Udor, Aurel; Nour, Aurel, Securitatea națională și managementul situațiilor de urgență generate de insecuritatea obiectivelor economice importante , Editura Stadiform, București, 2007 10. *** Ghidul serviciilor voluntare și private pentru situații de urgență - SVPSU , Editura Contrast, București, 2009 | | |
| 8.2 Academic seminar/laboratory/project | Teaching methods | No. of hours/ Observations |
| 1. Report: Emergency situations caused by fire | Students receive homework for the seminar papers or choose their homework at least a week in advance, study, design the papers and present them at the seminar. Appreciations and comments are made under the guidance of the teacher. | 4 h |
| 2. Paper: On the combustibility of materials and substances | | 4 h |
| 3. Paper: Fire resistance and stability | | 4 h |
| 4. Report: Calculation of load and thermal density of fire | | 4 h |
| 5. Report: Technical causes of fire | | 4 h |
| 6. Paper: Technical fire prevention and extinguishing systems | | 4 h |
| 7. Paper: The concept of fire risk management | | 4 h |
| Total: | | 28 h |
| Bibliography It is the one indicated for the course | | |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

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|--|
| <ul style="list-style-type: none"> The content of the discipline is adapted and satisfies the requirements imposed by the labor market, being agreed by social partners, professional associations and employers in the field related to the study program. |
|--|

10. Evaluation

| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods | 10.3 Percent from the final mark |
|---|--|---|----------------------------------|
| 10.4 Course | <ul style="list-style-type: none"> - for grade 5 it is necessary to know the fundamental notions required in the subjects, without presenting details on them - for grade 10, a thorough knowledge of all subjects is required | Oral examination Students receive 3 topics to solve | 70% |
| 10.5 Project | <ul style="list-style-type: none"> - for Note 5, it is necessary to know the structure of the paper and one or two concepts in the paper - for grade 10, in-depth knowledge of the topic of the paper and its support during the seminar | At each seminar, the students draw up a report, which can be collective, which they support and which is submitted to debates during the seminars. Each student also receives a grade for the seminar activity during the semester | 30% |
| 10.6 Minimum performance standard: Course: - Solving and explaining complex problems associated with the discipline of advanced management methods specific to the field of engineering and management - Participation in at least half of the courses. Seminar: - Designing processes for removing fire risks, preventing and extinguishing fires at business level, for a given situation - Participation at all seminar hours. | | | |

Completion date: 12.09.2020

Date of endorsement in the department: 24.09.2020

Date of endorsement in the Faculty Board: 28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Department of Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2nd cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering / Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|---------------------------------------|-------------------------------------|--------------|----------|----------------------------|-----------|--------------------|------------|
| 2.1 Name of the subject | Automatic systems management | | | | | | |
| 2.2 Holder of the subject | Prof. PhD eng. Helga Silaghi | | | | | | |
| 2.3 Holder of the academic laboratory | Prof. PhD eng. Helga Silaghi | | | | | | |
| 2.4 Year of study | I | 2.5 Semester | 1 | 2.6 Type of the evaluation | Ex | 2.7 Subject regime | THD |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|-----------|-------------------------|-----------|
| 3.1 Number of hours per week | 4 | of which: 3.2 course | 2 | 3.3 academic laboratory | 2 |
| 3.4 Total of hours from the curriculum | 56 | Of which: 3.5 course | 28 | 3.6 academic laboratory | 28 |
| Distribution of time | | | | | hours |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 40 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 20 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 25 |
| Tutorials | | | | | |
| Examinations | | | | | 9 |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 94 | | | | |
| 3.9 Total of hours per semester | 150 | | | | |
| 3.10 Number of credits | 6 | | | | |

4. Pre-requisites (where applicable)

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|-------------------------------|--------------|
| 4.1 related to the curriculum | (Conditions) |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|--|---|
| 5.1. for the development of the course | - Attendance at least 50% of the courses - The course can be held face to face or online |
| 5.2. for the development of the academic | - The project can be carried out face to face or online - The frequency at project hours below 70% leads to the restoration of the |

| | |
|-----------------------------|------------|
| seminary/laboratory/project | discipline |
|-----------------------------|------------|

6. Specific skills acquired

| | |
|---------------------|---|
| Professional skills | <p>C3. Planning, scheduling and management of enterprises and related logistics networks and assisted tracking of production.</p> <p>C4. Development and evaluation of technical flows, financial economic and business level, advanced management methods.</p> |
| Transversal skills | <p>TC2. Identify the roles and responsibilities of each member of a pluri-disciplinary team and apply efficient work and relational techniques inside the team</p> |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|---|
| 7.1 The general objective of the subject | <ul style="list-style-type: none"> The discipline has as objective the familiarization of the students from the master's specialization Management and Communication in Engineering, with the field of advanced electric drives. |
| 7.2 Specific objectives | <ul style="list-style-type: none"> The course aims to present the theoretical elements of the technique of advanced electric drives. The project provides the necessary knowledge to the students to be able to design an advanced electric drive |

8. Contents*

| 8.1 Course | Teaching methods | No. of hours/ Observations |
|---|---|-------------------------------|
| 1. Advanced electric drives with DC servomotors | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| 2. Advanced electric drives with asynchronous servomotors | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| 3. Advanced electric drives with synchronous servomotors | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| 4. Advanced electric drives with stepper motors | Free exposure, with the presentation of the course with video projector, on the board or online | 6h |

| | | |
|--|--|----------------------------|
| 5. Variable frequency induction machine control systems | Free exposure, with the presentation of the course with video projector, on the board or online | 6h |
| 6. Advanced electric drives with linear motors | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| Bibliography 1. SILAGHI H., SPOIAL V., SILAGHI M. – <i>Ac ion ri electrice</i> , Editura Mediamira , Oradea, 2009 2. SILAGHI, H., SPOIAL , VIORICA, <i>Ac ion ri electrice-probleme fundamentale i no iuni de proiectare</i> , Ed. Universit ii din Oradea, 2002 3. SILAGHI H., SILAGHI M. – <i>Sisteme de ac ion ri electrice cu ma ini asincrone</i> , Editura Treira , Oradea, 2000 4. IANCU V., SPOIAL D., SPOIAL VIORICA, <i>Ma ini electrice i sisteme de ac ion ri electrice</i> , vol.II, Ed. Universit ii din Oradea, 2006 5. RICHARD CROWDER, <i>Electric drives and electromechanical systems</i> , Elsevier, Great Britain, 2006 6. VIORICA SPOIAL , HELGA SILAGHI, <i>Ac ion ri electrice speciale</i> , Editura Universit ii din Oradea, 2010 7. HELGA SILAGHI, V. SPOIALA, D.SPOIALA, A. SILAGHI - <i>Ac ion ri electrice avansate</i> , Editura Universit ii din Oradea, Oradea, ISBN 978-606-10-2035-5, 157 pg., 2019 | | |
| 8.2 Academic project | Teaching methods | No. of hours/ Observations |
| Design of the lifting mechanism of a general purpose overhead crane | Students receive the project theme and design methodology and under the guidance of the teacher perform the project stages | 14h |
| Bibliography 1.Silaghi Helga, Spoial Viorica, <i>Proiectarea ac ion rilor electrice</i> , Îndrum tor de proiectare, Editura Universit ii din Oradea, 2009 2.Helga Silaghi, V. Spoiala, D.Spoiala, A. Silaghi - <i>Ac ion ri electrice avansate</i> , Editura Universit ii din Oradea, Oradea, ISBN 978-606-10-2035-5, 157 pg., 2019 3. Viorica Spoial , Helga Silaghi, Drago Spoial – <i>Ac ion ri electrice</i> . Indrumator de laborator. Universitatea din Oradea, ISBN 978-606-10-1432-3, Edi ie CD-ROM, 140 pag, 2014 4. Helga Silaghi, Viorica Spoial , Claudiu Costea, <i>Ac ion ri electrice – îndrum tor de laborator</i> , Editura Universit ii din Oradea, 126 pg, 2008 | | |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

- The content of the discipline can be found in the curriculum of Management and Communication in Engineering from other university centers that have accredited similar specializations (Technical University of Cluj-Napoca, University of Craiova, "Politehnica" University of Timisoara, Gh. Asachi University of Iasi, etc.) and knowledge of the types of electric drives and their operation and design is a stringent requirement of employers in the field (Comau, Faist Mekatronics, Celestica, GMAB, etc.).

10. Evaluation

| | | | |
|------------------|--------------------------|--|----------------------------------|
| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods The evaluation can be | 10.3 Percent from the final mark |
|------------------|--------------------------|--|----------------------------------|

| | | | |
|--|---|---|------|
| | | done face-to-face or online | |
| 10.4 Course | Minimum required conditions for passing the exam (mark 5): in accordance with the minimum performance standard it is necessary to know the fundamental notions required in the subjects, without presenting details on them For 10: thorough knowledge of all subjects is required | Oral examination Students receive for solving each a form with 3 subjects of theory and an application. | 60 % |
| 10.5 Project | Minimum required conditions for promotion (grade 6): going through the design stages, without deepening the calculations For 10: going through all the design stages, with the completion of the calculations and the electrical supply and control diagrams | Oral presentation Following the presentation of the project completed during the semester, each student receives a grade. | 40% |
| <p>10.6 Minimum performance standard:</p> <p>Course: Selection and independent use of learned methods and algorithms for known standard situations as well as completion of calculations (analytical and numerical) with physical quantities.</p> <p>Project: Development and design of automation structures based on electrical drives by using the principles of project management</p> <p>The timely solution, in individual activities and group activities, in conditions of qualified assistance, of the problems that require the application of principles and rules respecting the norms of professional deontology.</p> <p>Responsible assumption of specific tasks in multi-specialized teams and efficient communication at institutional level.</p> <p>Elaboration and argumentative support of the application of a personal professional development plan.</p> | | | |

Completion date:

04.09.2020

Date of endorsement in the department:

24.09.2020

Date of endorsement in the Faculty

Board:

28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Department of Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2nd cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering / Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|---|--|--------------|---|----------------------------|-----------------------|--------------------|-----|
| 2.1 Name of the subject | Ethics and integrity in scientific research | | | | | | |
| 2.2 Holder of the subject | Lect. PhD jr. Anca P CAL | | | | | | |
| 2.3 Holder of the academic seminar/laboratory/project | Lect. PhD jr. P CAL | | | | | | |
| 2.4 Year of study | I | 2.5 Semester | 2 | 2.6 Type of the evaluation | Continuous Assessment | 2.7 Subject regime | SYD |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|-----------|----------------------|----|---|----|
| 3.1 Number of hours per week | 1 | of which: 3.2 course | 1 | 3.3 academic seminar/laboratory/project | - |
| 3.4 Total of hours from the curriculum | 14 | Of which: 3.5 course | 14 | 3.6 academic seminar/laboratory/project | - |
| Distribution of time | | | | | |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 20 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 10 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | |
| Tutorials | | | | | |
| Examinations | | | | | |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 36 | | | | |
| 3.9 Total of hours per semester | 50 | | | | |
| 3.10 Number of credits | 2 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--------------|
| 4.1 related to the curriculum | (Conditions) |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|---|---|
| 5.1. for the development of the course | - Attendance at least 50% of the courses - The course can be held face to face or online |
| 5.2. for the development of the academic laboratory/project | |

6. Specific skills acquired

CT1. Responsibly apply the principles, norms and values of professional ethics in order to achieve the goals and identify the objectives, the available resources, the steps to be done and time spent for finishing the works, the deadlines, and the risks involved.

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|---|
| 7.1 The general objective of the subject | Knowledge, understanding, explanation and interpretation of concepts specific to ethics and integrity in scientific research for their application in the development of a responsible professional career. |
| 7.2 Specific objectives | The course aims to familiarize students with the notions of ethics, integrity in scientific research; acquiring the knowledge and skills necessary to apply the rules of ethics in scientific research |

8.8. Contents

| 8.1.Course | Teaching methods | No. of hours/ Observations |
|--|---|-------------------------------|
| The concept of ethics; general aspect of the ethics in scientific research. Regulations on ethics in Romanian universities. | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| Integrity in the educational system: integrity standards, promotion of academic integrity, violations of academic integrity, good practices. | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| Ethical issues of research and publication: plagiarism, forms of plagiarism. Other forms of academic dishonesty. | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| Justice and equity in academic organizations and research teams. Legal provisions applicable to the ethics and integrity of scientific research. | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| Elaboration of a scientific paper according to the principles of ethics and academic integrity | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |

| Bibliography | | |
|--|------------------|-------------------------------|
| 1. Ariely, D. (2012). <i>Adevrul (cinstit) despre necinste. Cum îi minim pe toți dar mai ales pe noi în sine.</i> București: Editura Publica 2. Proiect PODCA 2013. Ghid practic privind cercetarea științifică 3. Pisoschi, A., Vacariu V, Ioana Popescu I. 2006. Etica în cercetare, 4. Singer, P. (2006), <i>Tratat de Etică</i> , București: Editura Polirom 5. Arpe, D., Popescu, D., Neagu, A., Ciucur, V., (2011), <i>Standarde de integritate în mediul universitar, UEFISCDI</i> , București. 6. Ierican, Emilia, (2017), <i>Deontologie academică. Ghid practic</i> , Editura Universității București 7. L.E.N- 1/2011 8. Legea 8/1996 privind drepturile de autor 9. Legea 206/2004 privind buna conduită în cercetarea științifică, dezvoltarea tehnologică și inovare | | |
| 8.2 Academic seminar/laboratory/project | Teaching methods | No. of hours/ Observations |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

Knowledge of these notions is a stringent requirement of vocational training. The content of the discipline is correlated with the need to train responsible adults, able to apply and respect the principles of ethics and integrity in personal and professional life.

10. Evaluation

| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods The evaluation can be done face-to-face or online | 10.3 Percent from the final mark |
|---|---|---|----------------------------------|
| 10.4 Course | Minimum required conditions for passing the exam (mark 5): in accordance with the minimum performance standard it is necessary to know the fundamental notions required in the subjects, without presenting details on them For 10: thorough knowledge of all subjects is required | Oral examination Students receive for solving each a form with 2 subjects of theory and an application. | 100 % |
| 10.6 Minimum performance standard: Course: - Knowledge of the essential notions in the field of ethics and integrity in scientific research; - Ability to know and recognize the extent of one's rights and obligations as a researcher; | | | |

Completion date:

17.09.2020

**Date of endorsement in the
department:**

24.09.2020

**Date of endorsement in the Faculty
Board:**

28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Department of Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2st cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering / Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|---|---------------------------------------|--------------|----------|----------------------------|-----------|--------------------|------------|
| 2.1 Name of the subject | Flexible fabrication systems | | | | | | |
| 2.2 Holder of the subject | Lect.. PhD eng. Marius Romocea | | | | | | |
| 2.3 Holder of the academic laboratory/project | Lect. PhD eng. Marius Romocea | | | | | | |
| 2.4 Year of study | I | 2.5 Semester | 2 | 2.6 Type of the evaluation | Ex | 2.7 Subject regime | THD |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|-----------|---------------------------------|-----------|
| 3.1 Number of hours per week | 3 | of which: 3.2 course | 1 | 3.3 academic laboratory/project | 2 |
| 3.4 Total of hours from the curriculum | 42 | Of which: 3.5 course | 14 | 3.6 academic laboratory/project | 28 |
| Distribution of time | | | | | hours |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 28 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 19 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 30 |
| Tutorials | | | | | |
| Examinations | | | | | 6 |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 83 | | | | |
| 3.9 Total of hours per semester | 125 | | | | |
| 3.10 Number of credits | 5 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--------------|
| 4.1 related to the curriculum | (Conditions) |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|--|---|
| 5.1. for the development of the course | <ul style="list-style-type: none"> - Attendance at least 50% of the courses - The course can be held face to face or online |
|--|---|

| | |
|--|---|
| 5.2.for the development of the academic laboratory/project | <ul style="list-style-type: none"> - Mandatory presence at all laboratories; - The laboratory/project can be carried out face to face or online - Students come with the observed laboratory works - A maximum of 4 works can be recovered during the semester (30%); - The frequency at laboratory hours below 70% leads to the restoration of the discipline |
|--|---|

| 6. Specific skills acquired | |
|-----------------------------|---|
| Professional skills | <p>Knowledge of the main types of processes and phenomena of economic communication, of the theoretical elements of microeconomics and practical aspects regarding the economic-financial flows at business level</p> <p>Knowledge of electric power sources, knowledge of company software, managerial informatics, elaboration and interpretation of technical documentation.</p> |
| Transversal skills | identification of continuous training opportunities and efficient use, for one's own development, of information sources and of communication resources and assisted professional training (Internet portals, specialized software applications, databases, online courses, etc.) both in Romanian, as well as in a language of international circulation |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|---|
| 7.1 The general objective of the subject | <p>The acquisition, by the future specialists, of information and knowledge regarding: the place and the role of the Assisted Production Systems (SPA) in the modern production; behavior, structure, forms of organization of SPA; the logic of SPA design and their synthesis; organization and endowment of advanced systems; SPA modeling and simulation; management concepts regarding production systems;</p> <p>Acquiring principles and skills for designing and organizing advanced production systems.</p> <p>Formation of documentation skills in the field of SPA and analysis of the economic efficiency of the introduction of advanced systems</p> |
| 7.2 Specific objectives | <p>Using cutting-edge theoretical and practical knowledge in the field of management and communication in engineering as a basis for the development and / or original application of ideas;</p> <p>Awareness of key issues in the field of management and communication in engineering and in the area of interference between fields;</p> <p>Developing new skills in response to emerging new knowledge and techniques;Manifestation of an active behavior towards a series of social, scientific and ethical aspects that appear in work or study.</p> |

8. Contents*

| 8.1 Course | Teaching methods | No. of hours/ Observations |
|--|---|----------------------------|
| Chapter I .The organizational structure of the enterprise1.1. The economy and its sectors1.2. Its enterprise and organization1.2.1. Getting started1.2.2. Organization of the enterprise1.2.3. Functions of the enterprise1.2.4. Global enterprise | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| Chapter 2.Product and product life cycle2.1. The product and | Free exposure, with the | 1h |

| | | |
|--|---|----|
| its role 2.2. Types of products 2.2.1. Consumer goods and industrial goods 2.2.2. Goods and services 2.3. Product attributes 2.4. Product name and brand 2.4.1. name 2.4.2. mark 2.5. Product life cycle 2.6. The PLM (Product Lifecycle Management) concept | presentation of the course with video projector, on the board or online | |
| Chapter III. Computer integrated production (CIP) 3.1. The CIP principle 3.2. CIP facilities 3.3. Modeling and simulation in CIP hypersystems 3.4. The control system architecture of a CIP hypersystem 3.5. Advantages and disadvantages of the CIP hypersystem | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| Chapter 4. Automated Storage and Retrieval System (ASRS) 4.1. Development of automatic storage and retrieval systems 4.2. Deposit functions 4.3. Classification of deposits 4.4. Retrieval systems 4.5. Fixed and mobile storage (support) structures 4.6. Shelves | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| Chapter. V. Automated Storage and Retrieval System (ASRS) 5.1. Means for serving storage structures 5.2. Automatic warehouse control systems 5.3. ASRS control system architecture 5.4. Strategies for managing automatic deposits 5.5. The advantages of automatic storage systems are as follows 5.6. Cost optimization using ASRS systems | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| Chapter 6. AGVS (Automated Guided Vehicles System) 6.1. The structure of a robot car 6.2. Navigation of AGV systems 6.2.1. Navigation using radio frequency 6.2.2. Navigation using tapes (magnetic or colored) 6.2.3. Laser navigation 6.2.4. Gyroscopic navigation | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| Chapter 7. AGVS (Automated Guided Vehicles System) 7.1. Management of the AGV system 7.2. Robot traction system 7.3. Robot steering system 7.4. Kinematics of robot steering 7.5. Precisely stopping the robots 7.6. On-board microcomputer 7.7. Security systems 7.8. The main types of AGV- used in industry | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| Chapter 8. Flexible Manufacturing Systems (SFF) 8.1. General structure of manufacturing systems 8.2. Analysis of flexible manufacturing systems 8.3. Synthesis of manufacturing flows in flexible manufacturing systems 8.4. The need to model and simulate the management and operation of flexible manufacturing systems 8.5. Mathematical modeling of flexible manufacturing systems | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |

| | | |
|---|---|----|
| Head. IX. Computer Aided Quality Assurance CAQ, CAT9.1. Quality assurance system9.2. Quality management9.3. Using the computer in testing | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| Chapter 10..Computer aided design CAD / CAM10.1. Definition of CAD / CAM10.2. CAD / CAM content10.3. CAD / CAM development history10.4. Production cycle and CAD / CAM | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| Chapter 11.Computer aided design CAD / CAM11.1. The structure of a design and manufacturing process11.2. Computer aided design, CAD11.3. Computer Aided Manufacturing, CAM11.4. CAD / CAM tools11.5. Study and design of computer aided electrical devices | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| Chapter 12.Computer Aided Engineering, CAE | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| Chapter 13.Computer Aided Technology Design, CAPP | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| Chapter 14.Computer Aided Production Planning, Preparation and Tracking, CAPS | Free exposure, with the presentation of the course with video projector, on the board or online | 1h |
| <p>Bibliography</p> <ol style="list-style-type: none"> 1. Abrudan Ioan, <i>Sisteme flexibile de fabrica ie</i>, Editura Dacia, Cluj-Napoca. 1996. 2. Ceau u Iulian: <i>Dic ionar enciclopedic managerial</i>, vol. I, Ed. Academic de management, Bucure ti 2000. 3. Ciobanu Gh., Rada I.C.: <i>Managementul afacerilor economice interna ionale</i>, Casa de Pres i Editur „Anotimp”, Oradea, 2000. 4. Dr goi George, <i>Sisteme integrate de produc ie</i>, Editura Tehnic , Buc., 2000. 5. Florian Lungu, <i>Modelarea func ion rii sistemelor flexibile de fabrica ie cu ajutorul teoriei jocurilor</i>, Editura Dacia, Cluj-Napoca, 2006. 6. Lucian Ciobanu, <i>Sisteme flexibile de fabrica ie</i>, Univ. Gh. Asachi, Ia i 2003. | | |

7. Lazar Ioan, Mortan Maria, Vere Vicențiu, Lazar Sorin Paul, *Management General*, Ed. RISOPRINT, Cluj-Napoca, 2004.
8. Cazimir Bohosievici, *Modelarea i optimizarea proceselor de fabrica ie*, Editura Junimea Ia i, 1999.
9. Constantin Alexandru Pop, *Sisteme de fabrica ie*, Editura Universit ii Tehnice, Cluj-Napoca, 2006.
10. D n lache Florin, *Management industrial*, Editura PRINTECH, 2004.
11. Florea Dorel Anania, Claudiu Florinel Bâ u, *Concep ie i fabrica ie integrate, Aplica ii*. Editura BREN, 2005.
12. Florin Gheorghe Filip, Boldur B rbat, *Informatica industrial . Noi paradigme i aplica ii*. Editura Tehnic , 1999.
13. Gabriel Burlacu, *Fiabilitatea, mentenabilitatea i disponibilitatea sistemelor tehnice*, Editura MATRIXROM, 2005.
14. Gheorghe R doi, Marius Guran, *Sisteme integrate de produc ie asistate de calculator*, Editura Tehnic , Bucure ti, 1997.
15. Horia Liviu Popa, *Teoria i ingineria sistemelor. Concepte, modele, metode, competitivitate*, Editura Politehnica Timi oara, 2003.
16. Ioan Gâf-Deac, *Dezvoltarea structural a tehnologiilor moderne*, Editura ALL BECK, 2001.
17. Ispas C., Masala I., Zapciu M., Mohora C., *CIM – Computer Integrated Manufacturing. Indrumar de proiectare*. Editura BREN; Bucure ti, 1999.
18. Kovacs Francisc .a., *Fabrica viitorului. Introducere în productic : integrarea prin calculator a concep iei, fabrica iei i managementului* , Editura Multimedia Interna ional, Arad, 1999.
19. Marius Cioca, *Conducerea asistat a unit ilor economice*, Editura Universit ii „Lucian Blaga” din Sibiu, 2004.
20. Vitriciu M tie , *Tehnologie i educa ie mecatronic* , Editura Todesco, Cluj-Napoca, 2001.
21. t. Nagy, Ioan C-tin Rada – „Sisteme avansate de produc ie (Note de curs)”, Editura Asocia iei „Societatea Inginerilor de Petrol i Gaze”, 232 pg., 2008, [ISBN 978-973-88615-7-2], curs format electronic.
22. t. Nagy – „Sisteme avansate în procesele de produc ie”, Editura Universit ii din Oradea, 252 pg., 2011, [ISBN 978-606-10-0486-7].
23. t. Nagy, Ioan C-tin Rada – „Sisteme avansate de produc ie. (Aplica ii)”, Editura Asocia iei „Societatea Inginerilor de Petrol i Gaze”, 232 pg., 2008, [ISBN 978-973-88615-8-9], aplica ii format electronic.

| 8.2 Academic laboratory | Teaching methods | No. of hours/ Observations |
|--|---|-------------------------------|
| 1.Product and product life cycle | During the laboratory classes, the aim was to | 4h |
| Computer integrated production (CIP) | | 4h |
| 3.Automated Storage and Retrival System (ASRS) | | 4h |
| 4.AGVS (Automated Guided Vehicles System) | | 4h |

| | | |
|---|--|-------------------------------|
| 5.Computer Aided Quality Assurance CAQ, CAT 6.Computer aided design CAD / CAM 7.Teaching Synthesis Papers | acquire the theoretical concepts and to transfer in the applicative plan the theoretical knowledge acquired during the course. | 4h 4h 4h |
| 8.3 Academic project | Teaching methods | No. of hours/ Observations |
| | | |
| Bibliography | | |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

The content of the Discipline Sheet is adapted and satisfies the requirements imposed by the labor market, being agreed by social partners, professional associations and employers in the field related to the master's program.

10. Evaluation

| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods The evaluation can be done face-to-face or online | 10.3 Percent from the final mark |
|------------------|---|---|----------------------------------|
| 10.4 Course | Minimum required conditions for passing the exam (mark 5): in accordance with the minimum performance standard it is necessary to know the fundamental notions required in the subjects, without presenting details on them For 10: thorough knowledge of all subjects is required | Written exam Students receive for solving each a form with 3 subjects of theory and an application. | 70% |

| | | | |
|--|---|--|-----|
| 10.5 Laboratory | Minimum required conditions for promotion (grade 5): in accordance with the minimum performance standard recognition of the stands used to carry out the laboratory works, without presenting details on them For 10: detailed knowledge of how to perform all laboratory work | Test + practical application At each laboratory students receive a test and a grade. Each student also receives a grade for laboratory work during the semester and for the laboratory work file. This results in an average for the laboratory. | 30% |
| 10.6 Project | | | |
| <p>10.6 Minimum performance standard:</p> <p style="text-align: center;">Course</p> <p>The student is able to develop a synthesis paper, a case study using bibliographic material as well as knowledge of engineering, management and communication. Can perform a job responsibly performing role-specific tasks in a team.</p> | | | |

Completion date:

21.05.2021

Date of endorsement in the department:

24.09.2020

Date of endorsement in the Faculty

Board:

28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Department of Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2nd cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering / Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|------------------------------------|--|--------------|----------|----------------------------|-----------|--------------------|------------|
| 2.1 Name of the subject | Fundamentals of economic communication | | | | | | |
| 2.2 Holder of the subject | Assoc.prof. PhD eng.ec. Liliana Doina M gdoiu | | | | | | |
| 2.3 Holder of the academic seminar | Assoc.prof. PhD eng.ec. Liliana Doina M gdoiu | | | | | | |
| 2.4 Year of study | I | 2.5 Semester | 1 | 2.6 Type of the evaluation | Ex | 2.7 Subject regime | THD |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|-----------|-------------------------|-----------|
| 3.1 Number of hours per week | 3 | of which: 3.2 course | 2 | 3.3 academic laboratory | 1 |
| 3.4 Total of hours from the curriculum | 42 | Of which: 3.5 course | 28 | 3.6 academic laboratory | 14 |
| Distribution of time | | | | | hours |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 46 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 24 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 30 |
| Tutorials | | | | | 2 |
| Examinations | | | | | 6 |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 108 | | | | |
| 3.9 Total of hours per semester | 150 | | | | |
| 3.10 Number of credits | 6 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--|
| 4.1 related to the curriculum | (Conditions) Knowledge of the Basics of Economics and General Economics |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|--|--|
| 5.1. for the development of the course | - Attendance at least 50% of the courses - The course can be held face to face or online |
| 5.2. for the development of the academic seminary/laboratory/project | - Mandatory presence at all seminars; - The can be carried out face to face or online - Students come with the observed seminar papers |

| | |
|--|---|
| | <ul style="list-style-type: none"> - A maximum of 4 works can be recovered during the semester (30%); - The frequency at seminar hours below 70% leads to the restoration of the discipline - The seminar can be held face to face or online |
|--|---|

6. Specific skills acquired

| | |
|---------------------|--|
| Professional skills | <p>C2. Knowledge of electrical power sources, knowledge of business software, computer management, drafting and interpreting technical documentation.</p> <p>C5. Project management and enterprise of electrical, electronic and energy marketing and economic agreements.</p> <p>C6. Knowledge of key issues in the field of communication and management in engineering and from the interference of fields</p> |
| Transversal skills | <p>TC2. Identify the roles and responsibilities of each member of a pluri-disciplinary team and apply efficient work and relational techniques inside the team</p> <p>TC3. Identify the long-life training opportunities and the efficient use (for self development) of informational sources, as well as communication and assisted professional training resources (Internet websites, dedicated software applications, databases, on-line courses etc.) both in Romanian language and some other international spoken language</p> |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|--|
| 7.1 The general objective of the subject | <ul style="list-style-type: none"> ● Familiarizing students with theories on economic communication |
| 7.2 Specific objectives | <ul style="list-style-type: none"> ● The course aims to present the theoretical elements of economic communication ● The seminar familiarizes students with practical aspects of communication and negotiation in the field of economics |

8. Contents*

| 8.1 Course | Teaching methods | No. of hours/ Observations |
|---|---|-------------------------------|
| 1. Communication | Free exposure, with the presentation of the course with video projector, on the board or online | 3h |
| 2. Communication techniques in interpersonal relationships | Free exposure, with the presentation of the course with video projector, on the board or online | 3h |
| 3. Oral communication | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |

| | | |
|--|---|----|
| 4. Written communication | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 5. Negotiation. The concept of negotiation | Free exposure, with the presentation of the course with video projector, on the board or online | 3h |
| 6. Basic principles in the negotiation process | Free exposure, with the presentation of the course with video projector, on the board or online | 3h |
| 7. The function of negotiation - the profile of the negotiator | Free exposure, with the presentation of the course with video projector, on the board or online | 3h |
| 8. Contract negotiation | Free exposure, with the presentation of the course with video projector, on the board or online | 3h |
| 9. Selling techniques. The concept of sale | Free exposure, with the presentation of the course with video projector, on the board or online | 3h |
| 10. Product presentation and the art of negotiation | Free exposure, with the presentation of the course with video projector, on the board or online | 3h |
| <p>Bibliography</p> <p>1. Rada, Ioan Constantin; M gdoi, Liliana Doina, Management general, Editura Asocia iei „Societatea Inginerilor de Petrol i Gaze”, Bucure ti, 2009, CD-ROM</p> <p>2. Rada, Ioan Constantin; Rica, Ivan; M gdoi, Liliana Doina, Tehnici de negociere, Editura Universit ii din Oradea, 2011, CD-ROM</p> <p>4. M gdoi, Liliana Doina, Management i Comunicare în Ingineria Economic , Ed. CA Publishing, Cluj-Napoca, 2012</p> <p>5. Rada, Ioan Constantin, Economie general I, Editura Asocia iei „Societatea Inginerilor de Petrol i Gaze”, Bucure ti, 2009,CD-ROM</p> <p>6. Rada,Ioan Constantin, Economie general II, Editura Asocia iei „Societatea Inginerilor de Petrol i Gaze”, Bucure ti, 2009,CD-ROM</p> <p>7. Rada, Ioan Constantin Microeconomie. Idei moderne. Vol. I, Editura Asocia iei „Societatea Inginerilor</p> | | |

| | | |
|--|--|--|
| de Petrol i Gaze”, Bucure ti, 2007 | | |
| 8. Rada, Ioan Constantin, Microeconomie. Idei moderne. Vol. II , Editura Asocia iei „Societatea Inginerilor de Petrol i Gaze”, Bucure ti, 2008 | | |
| 9. Rada, Ioan Constantin; Rica, Ivan; M gdoi, Liliana Doina, Finanțe și credit (note de curs) , Editura Universit ții din Oradea, 2011, CD-ROM | | |
| 10. Rada, Ioan Constantin; Rica Ivan; M gdoi, Liliana Doina, Finanțe și credit (aplicații pentru seminar) , Editura Universit ții din Oradea, 2011, CD-ROM. | | |
| 8.2 Academic seminar | Teaching methods | No. of hours/ Observations |
| 1. Paper: Public communication techniques. The speech. 2. Reported: Communication techniques with customers. 3. Report: The interview. 4. Paper: Written communication. 5. Paper: Negotiation. The concept of negotiation. 6. Paper: Basic principles in the negotiation process. 7. Paper: Product presentation and the art of negotiation. | Students receive laboratory reports at least one week in advance, study them, and are randomly tested throughout the laboratory. Students implement the work under the guidance of the teacher. | 2 h 2 h 2 h 2 h 2 h 2 h |
| Bibliography It is the one indicated for the course | | |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

- The content of the discipline can be found in the curriculum of Management and Communication in Engineering from other university centers that have accredited similar specializations (Technical University of Cluj-Napoca, University of Craiova, "Politehnica" University of Timisoara, Gh. Asachi University of Iasi, etc.) and knowledge of the types of electric drives and their operation and design is a stringent requirement of employers in the field (Comau, Faist Mekatronics, Celestica, GMAB, etc.).

10. Evaluation

| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods The evaluation can be done face-to-face or online | 10.3 Percent from the final mark |
|-----------------------|---|---|----------------------------------|
| 10.4 Course | Minimum required conditions for passing the exam (mark 5): in accordance with the minimum performance standard it is necessary to know the fundamental notions required in the subjects, without presenting details on them For 10: thorough knowledge of all subjects is required | Oral examination - Students are given two topics to solve | 70 % |
| 10.5 Academic seminar | - for grade 5, it is necessary to know the structure of the paper and one or two concepts | At each seminar, the students draw up a report, which can be collective, which they | 30% |

| | | | |
|---|---|--|--|
| | in the paper - for grade 10, in-depth knowledge of the topic of the paper and its support during the seminar | support and which is submitted to the debates during the seminars. Each student also receives a grade for the seminar activity during the semester | |
| <p>10.5 Minimum performance standard: Course: Elaboration of a professional project specific to the field of Engineering and Management using specific software systems and databases. Designing communication processes at business level, for a given situation in the electrical, electronic and energy field Academic seminar: Responsible implementation, in conditions of qualified assistance, of projects for solving some problems specific to the field, with the correct evaluation of the workload, of the available resources, of the necessary completion time and of the risks, in conditions of application of deontological norms and professional ethics in the field, as well as occupational safety and health.</p> | | | |

Completion date:

12.09.2020

Date of endorsement in the department:

24.09.2020

Date of endorsement in the Faculty

Board:

28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | DEPARTMENT OF ELECTRICAL ENGINEERING |
| 1.4 Field of study | ELECTRICAL ENGINEERING |
| 1.5 Study cycle | Master (2 nd cycle) |
| 1.6 Study program/Qualification | MANAGEMENT AND COMMUNICATION IN ENGINEERING / ENGINEER |

2. Data related to the subject

| | | | | | | | |
|------------------------------------|-----------------------------------|--------------|---|----------------------------|----|--------------------|---|
| 2.1 Name of the subject | ELECTRIC POWER SOURCES | | | | | | |
| 2.2 Holder of the subject | Conf.dr.ing. BANDICI LIVIA | | | | | | |
| 2.3 Holder of the academic project | Conf.dr.ing. BANDICI LIVIA | | | | | | |
| 2.4 Year of study | I | 2.5 Semester | 1 | 2.6 Type of the evaluation | Ex | 2.7 Subject regime | I |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|----|---|-----------|
| 3.1 Number of hours per week | 3 | of which: 3.2 course | 2 | 3.3 academic seminar/laboratory/project | 1 |
| 3.4 Total of hours from the curriculum | 42 | Of which: 3.5 course | 28 | 3.6 academic seminar/laboratory/project | 14 |
| Distribution of time | | | | | hours |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 40 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 44 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 43 |
| Tutorials | | | | | 3 |
| Examinations | | | | | 3 |
| Other activities. | | | | | - |
| 3.7 Total of hours for individual study | 133 | | | | |
| 3.9 Total of hours per semester | 175 | | | | |
| 3.10 Number of credits | 7 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--|
| 4.1 related to the curriculum | Special issues of electrical engineering, new energy sources, electrical installations |
| 4.2 related to skills | Knowledge of how energy sources work |

5. Conditions (where applicable)

| | |
|--|--|
| 5.1. for the development of the course | - Video projector, computer. - The course can be held face to face or online platform https://e.uoradea.ro/ . |
| 5.2. for the development of the academic project | - Elaboration of the project after choosing a theme - The project can be presented face to face or online on the platform https://e.uoradea.ro/ . |

6. Specific skills acquired

| | |
|---------------------|--|
| Professional skills | C4. Development and evaluation of technical, economic, and financial flows at business level, advanced management methods |
| Transversal skills | CT1. The responsible application of the principles, norms, and values of professional ethics in the accomplishment of professional tasks and identifying the objectives to be achieved, the available resources, the work stages, the execution durations, the accomplishment terms, and the related risks. |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|---|
| 7.1 The general objective of the subject | The course "Power Sources" aims to familiarize students with the study and usefulness of power sources. Master students have the opportunity to get acquainted with various modern facilities, learn practical skills in the design, construction, sizing, and operation of facilities, with the possibilities of execution, maintenance, operation, and repair. |
| 7.2 Specific objectives | The project themes are designed to provide future master engineers with practical skills in designing, conducting, researching, operating, repairing, and maintaining power sources. |

8. Contents*

| 8.1 Course | Teaching methods | No. of hours/ Observations |
|--|--|-------------------------------|
| Chapter I. General notions regarding the evolution in time of the electric power sources. | Projector. Intercalated student contributions are requested on subject-specific topics. Some courses take place by teaching subjects and student debates. | 4 |
| Chapter II. Electric power systems. Supply and distribution of electrical energy. | Idem | 2 |
| Chapter III. Hydroelectric power. | Idem | 4 |
| Chapter IV. Wind energy. | Idem | 6 |
| Chapter V. Solar energy. | Idem | 8 |
| Chapter VI. Biomass | Idem | 2 |
| Chapter VII. Hydrogen energy. | Idem | 2 |
| Bibliography | | |
| <ol style="list-style-type: none"> Livia Bandici, "Surse electroenergetice". Note de curs, suport CD, 2018. V. Alexandrescu, "Sisteme electroenergetice I". Editura Universității Tehnice Iași, 1997. Gh. Cârțină, "Optimizarea și dispecerizarea sistemelor electroenergetice". Editura Universității Tehnice Iași, 1989. Gh. Cârțină, Gh. Grigoraș, "Inteligența artificială. Optimizări în energetică". Editura Venus, Iași, 2001. I. Chiuță, "Energetică generală și conversia energiei. Sisteme de conversie directă". Editura Institutului Politehnic, București, 1986. M. Gavrițaș, "Inteligența artificială și aplicații în energetică". Ed. Gh. Asachi, Iași, 2002. Gh. Georgescu, M. Istrate, V. Varvara, ș.a. "Transportul și distribuția energiei electrice". Ed. Gh. Asachi, Iași, 2001 V. Nitu, Lucia Pantelimon, C. Ionescu, "Energetică generală și conversia energiei". Editura Didactică și Pedagogică, București, 1980. | | |
| 8.4 Project | | |
| Proposed topics: | | |
| 1. Sizing of a solar installation with flat collector without forced circulation for domestic hot water preparation | Video projector, in case of online courses, the E-learning platform of the University of Oradea will be used | 2 |
| 2. Sizing of a wind installation necessary for servicing an | | |

| | | |
|--|--|---|
| isolated house. | (https://e.uoradea.ro), and in „video-audio conferencing” mode, the Microsoft Teams or Zoom communication platform will be used. Discussions on how to write the project. | |
| Chapter. I. General notions. | Brief approach to the main problems related to solar installations. | 2 |
| Chapter II. Materials used in the construction of the installation. | Explanations on how to choose the materials used for the construction of the installation. | 2 |
| Chapter III. Theoretical bases of equipment calculation. | Presentation of the notions related to the calculation of electrical parameters. | 2 |
| Chapter IV. Determination of equipment parameters. | Presentation of the calculation method of the equivalent parameters. | 2 |
| 4.1. Methods for calculating the electrical parameters of the equipment. | | |
| 4.2. Determination of thermal parameters. | Presentation of the calculation method of the thermal parameters. | 2 |
| Presentation of the project | Presenting and handing in the elaborated project. | 2 |
| Bibliography <ol style="list-style-type: none"> Livia Bandici, „<i>Surse electroenergetice</i>”. Note de curs, suport CD, 2019. Livia Bandici, „<i>Surse electroenergetice. Indrumător de proiectare</i>”, suport CD, 2018. V. Alexandrescu, „<i>Sisteme electroenergetice I</i>”. Editura Universității Tehnice Iași, 1997. Livia Bandici, D. Hoble, „<i>Utilizări ale energiei electrice</i>. Editura Universității din Oradea, 2006. Gh. Cârțină, „<i>Optimizarea și dispecerizarea sistemelor electroenergetice</i>”. Editura Universității Tehnice Iași, 1989. Gh. Cârțină, Gh. Grigoraș, „<i>Inteligența artificială. Optimizări în energetică</i>”. Editura Venus, Iași, 2001. I. Chiușă, „<i>Energetică generală și conversia energiei. Sisteme de conversie directă</i>”. Editura Institutului Politehnic, București, 1986. M. Gavrițaș, „<i>Inteligența artificială și aplicații în energetică</i>”. Ed. Gh. Asachi, Iași, 2002. Gh. Georgescu, M. Istrate, V. Varvara, ș.a. „<i>Transportul și distribuția energiei electrice</i>”. Ed. Gh. Asachi, Iași, 2001 V. Nitu, Lucia Pantelimon, C. Ionescu, „<i>Energetică generală și conversia energiei</i>”. Editura Didactică și Pedagogică, București, 1980. I. Șora, V. Conta, D. Popovici, „<i>Utilizări ale energiei electrice</i>”. Editura Facla, 1983. M. Ungureanu, M. Chindriș, I. Lungu, „<i>Utilizări ale energiei electrice</i>”. Editura Didactică și Pedagogică București, 1999. | | |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

The content of the subject is adapted and satisfies the requirements imposed by the labor market, being agreed by the social partners, professional associations, and employers in the field related to the master's degree program. Knowledge of the basics is a stringent requirement of employers in the field such as: Faist Mekatronics, Comau, S.C. Stimin Industries S.A., S.C. Electrica.

10. Evaluation

| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods | 10.3 Percent from the final mark |
|------------------|---|--|----------------------------------|
| 10.1 Course | Minimum required conditions for passing the exam (mark 5): in accordance with the minimum performance | The evaluation can be done face to face or online. | |

| | | | |
|--|--|--|--|
| | standard | | |
| 10.2. Project | Minimum required conditions for promotion (grade 5): in accordance with the minimum performance standard | | |
| <p>10.3. Minimum performance standard: Carrying out a work/ project, as a leader in a multidisciplinary team and responsibly distributing specific tasks to subordinates. Grade components: exam (Ex), independent activity (Ai) Final grade calculation formula: $N = 0.60 \text{ Ex} + 0.30 \text{ Pr} + 0.1 \text{ Ai}$; - Condition for obtaining credits: $N \geq 5$.</p> | | | |

Completion date:

03.09.2020

Date of endorsement in the department:

15.09.2020

Date of endorsement in the Faculty Board:

28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Department of Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2nd cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering / Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|---------------------------------------|--|--------------|----------|----------------------------|-----------|--------------------|------------|
| 2.1 Name of the subject | Managerial informatics | | | | | | |
| 2.2 Holder of the subject | Assoc.prof. PhD eng.ec. Liliana Doina M gdoiu | | | | | | |
| 2.3 Holder of the academic laboratory | Assoc.prof. PhD eng.ec. Liliana Doina M gdoiu | | | | | | |
| 2.4 Year of study | I | 2.5 Semester | 2 | 2.6 Type of the evaluation | Ex | 2.7 Subject regime | THD |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|-----------|-------------------------|-----------|
| 3.1 Number of hours per week | 3 | of which: 3.2 course | 2 | 3.3 academic laboratory | 1 |
| 3.4 Total of hours from the curriculum | 42 | Of which: 3.5 course | 28 | 3.6 academic laboratory | 14 |
| Distribution of time | | | | | hours |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 36 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 17 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 24 |
| Tutorials | | | | | |
| Examinations | | | | | 6 |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 83 | | | | |
| 3.9 Total of hours per semester | 125 | | | | |
| 3.10 Number of credits | 5 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--------------|
| 4.1 related to the curriculum | (Conditions) |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|---|---|
| 5.1. for the development of the course | - Attendance at least 50% of the courses - The course can be held face to face or online |
| 5.2.for the development of the academic | - The computer network in the laboratory to work, with the Linux program installed |

| | |
|-----------------------------|--|
| seminary/laboratory/project | <ul style="list-style-type: none"> - Mandatory presence at all laboratories - Students come with laboratory papers theoretically known - A maximum of 2 works can be recovered during the semester (30%) - The laboratory can be carried out face to face or online - The frequency at project hours below 70% leads to the restoration of the discipline |
|-----------------------------|--|

6. Specific skills acquired

| | |
|---------------------|---|
| Professional skills | <p>C2. Knowledge of electrical power sources, knowledge of business software, computer management, drafting and interpreting technical documentation.</p> <p>C4. Development and evaluation of technical flows, financial economic and business level, advanced management methods.</p> <p>C5. Project management and enterprise of electrical, electronic and energy marketing and economic agreements.</p> <p>C6. Knowledge of key issues in the field of communication and management in engineering and from the interference of fields</p> |
| Transversal skills | <p>TC2. Identify the roles and responsibilities of each member of a pluri-disciplinary team and apply efficient work and relational techniques inside the team</p> |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|---|
| 7.1 The general objective of the subject | <ul style="list-style-type: none"> • The discipline has as objective the reasoned use of concepts in informatics and computer technology in solving well-defined problems in engineering and management and in applications that require the use of hardware and software in industrial systems or computer systems. |
| 7.2 Specific objectives | <ul style="list-style-type: none"> • Application of basic principles and methods for planning, programming and management of enterprises in conditions of qualified assistance |

8. Contents*

| 8.1 Course | Teaching methods | No. of hours/ Observations |
|--|---|-------------------------------|
| 1. Informatics in economics | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 2. General aspects regarding operating systems | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| 3. Alternative operating systems | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |

| | | |
|--|---|----|
| 4. UNIX – LINUX files system | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 5. File and directory management in UNIX-LINUX | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| 6. UNIX-LINUX text editors | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 7. UNIX shells | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 8. Elements of networking | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 9. Internet and WEB technologies | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| 10. Elements of programming and calculation in the economic field | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| Bibliography 1 Drago Cristian Spoial , Viorica Spoial , <i>Utilizarea calculatoarelor</i> , Editura Universit ii din Oradea, 2010, ISBN 978-606-10-0221-4, 200 pag 1. Spoial Drago -Cristian , <i>Sisteme de operare. Curs pentru uzul studentilor</i> , http://dspoiala.webhost.uoradea.ro . 2. D. Acost chioaie, <i>Administrarea i Configurarea Sistemelor Linux</i> , edi ia a 3-a, Editura Polirom 2005 3. D. Acost chioaie, Sabin Buraga, <i>Utilizare Linux. No iuni de baz i practic</i> , Editura Polirom, 2004 4. T. Ionescu, Daniela Saru, J. Floroiu, <i>Sisteme de operare. Principii i func ionare</i> , Editura Tehnic , Bucure ti, 1997 5. P livan, H. P livan, <i>Linux pentru avansa i</i> , Editura Tehnic , Bucure ti, 2001 6. A. Tanenbaum, <i>Sisteme de operare moderne</i> , edi ia 2-a, Ed. Biblos, Bucure ti, 2004 7. UNIX – Tutorial - Internet | | |

| | | |
|--|--|--|
| 8. *** "Operating Systems", Wikipedia, http://en.wikipedia.org/wiki/Operating_system | | |
| 10. *** http://fedoraproject.ro/ | | |
| 8.2 Academic laboratory | Teaching methods | No. of hours/ Observations |
| 1. Install Linux-Fedora. The first orders 2. System variables - Input / output operations - Network applications 3. Text editors - Processes - Files and directories 4. Creating users and groups. File and directory rights 5. Shell programming. Shell scripts 6. Microsoft Excel. Economic applications 7. Microsoft Access. Database 8. Closing the situation at the laboratory | Students receive laboratory reports at least one week in advance, study them, and are randomly tested throughout the laboratory. Students implement the work under the guidance of the teacher. | 2h 2h 2h 2h 2h 2h 1h 1h |
| Bibliography | | |
| 1. Spoial Drago Cristian, Spoial Viorica, <i>Utilizarea calculatoarelor</i> , Îndrum tor de laborator, Tipografia Univ. din Oradea, 145 pag., 2010 2. Spoial Drago -Cristian, Spoial Viorica, <i>Sisteme de operare</i> . Îndrum tor de laborator Lito Universitatea din Oradea, 2010 | | |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

- The content of the discipline can be found in the curriculum of Management and Communication in Engineering from other university centers that have accredited similar specializations (Technical University of Cluj-Napoca, University of Craiova, "Politehnica" University of Timisoara, Gh. Asachi University of Iasi, etc.) and knowledge of the types of electric drives and their operation and design is a stringent requirement of employers in the field (Comau, Faist Mekatronics, Celestica, GMAB, etc.).

10. Evaluation

| | | | |
|---|---|---|----------------------------------|
| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods The evaluation can be done face-to-face or online | 10.3 Percent from the final mark |
| 10.4 Continuous Assessment | Minimum required conditions for passing the exam (mark 5): in accordance with the minimum performance standard it is necessary to know the fundamental notions required in the subjects, without presenting details on them For 10: thorough knowledge of all subjects is required | Oral examination - consisting of 10 questions each with a score displayed | 100 % |
| 10.5 Minimum performance standard: Course: Elaboration of a project for the planning, programming and management of the production to systems of medium complexity | | | |

Laboratory: - browsing the content of laboratory works
- participation in all laboratory works.

The timely solution, in individual activities and group activities, in conditions of qualified assistance, of the problems that require the application of principles and rules respecting the norms of professional deontology.

Completion date:

12.09.2020

Date of endorsement in the department:

24.09.2020

Date of endorsement in the Faculty

Board:

28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Department of Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2nd cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering / Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|------------------------------------|--|--------------|----------|----------------------------|-----------|--------------------|------------|
| 2.1 Name of the subject | Microeconomy | | | | | | |
| 2.2 Holder of the subject | Assoc.prof. PhD eng.ec. Liliana Doina M gdoiu | | | | | | |
| 2.3 Holder of the academic seminar | Assoc.prof. PhD eng.ec. Liliana Doina M gdoiu | | | | | | |
| 2.4 Year of study | I | 2.5 Semester | 1 | 2.6 Type of the evaluation | Ex | 2.7 Subject regime | THD |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|-----------|-------------------------|-----------|
| 3.1 Number of hours per week | 4 | of which: 3.2 course | 2 | 3.3 academic laboratory | 2 |
| 3.4 Total of hours from the curriculum | 56 | Of which: 3.5 course | 28 | 3.6 academic laboratory | 28 |
| Distribution of time | | | | | hours |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 30 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 10 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 20 |
| Tutorials | | | | | 0 |
| Examinations | | | | | 9 |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 69 | | | | |
| 3.9 Total of hours per semester | 125 | | | | |
| 3.10 Number of credits | 5 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--|
| 4.1 related to the curriculum | (Conditions) Knowledge of the Basics of Economics and General Economics |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|--|--|
| 5.1. for the development of the course | - Attendance at least 50% of the courses - The course can be held face to face or online |
| 5.2. for the development of the academic seminary/laboratory/project | - Mandatory presence at all seminars; - The can be carried out face to face or online - Students come with the observed seminar papers |

| | |
|--|---|
| | <ul style="list-style-type: none"> - A maximum of 4 works can be recovered during the semester (30%); - The frequency at seminar hours below 70% leads to the restoration of the discipline - The seminar can be held face to face or online |
|--|---|

6. Specific skills acquired

| | |
|---------------------|--|
| Professional skills | <p>C1. Knowing the main types of economic processes and phenomena of communication, elements of microeconomic theory and practical aspects of financial and economic flows at business</p> <p>C2. Knowledge of electrical power sources, knowledge of business software, computer management, drafting and interpreting technical documentation.</p> |
| Transversal skills | <p>TC2. Identify the roles and responsibilities of each member of a pluri-disciplinary team and apply efficient work and relational techniques inside the team</p> |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|--|
| 7.1 The general objective of the subject | <ul style="list-style-type: none"> ● Familiarization of students with the main types of processes and economic phenomena at the microeconomic level |
| 7.2 Specific objectives | <ul style="list-style-type: none"> ● The course aims to present the theoretical elements of microeconomics ● The seminar acquaints the students with practical aspects regarding the economic-financial flows at business level, the management of the economic and financial phenomenon |

8. Contents*

| 8.1 Course | Teaching methods | No. of hours/ Observations |
|-----------------------------|---|-------------------------------|
| 1. Consumer behavior | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 2. Consumer behavior | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 3. Market | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |

| | | |
|--|---|----|
| 4. Economic competition | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 5. The company | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 6. Producers behavior | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 7. Producers behavior | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 8. Production costs | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| 9. Selling prices | Free exposure, with the presentation of the course with video projector, on the board or online | 8h |
| 10. Entrepreneurial profit | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| <p>Bibliography</p> <ol style="list-style-type: none"> 1. Rada, Ioan Constantin, Economie, Ed. Anotimp, 2002 2. Rada, Ioan Constantin; Rada, Ioana Carmen, Economie. Caiet de lucru ri, Ed. Anotimp & Adsumus, 2002 3. Rada, Ioan Constantin; Bodog, Simona; Rada, Ioana Carmen; L zurean, Elena Nicoleta, Economie general , Marketing industrial (note de curs), Ed. Universit ii Oradea, 2006 4. Rada, Ioan Constantin; Bodog, Simona; Rada, Ioana Carmen; L zurean, Elena Nicoleta, Economie general , Marketing industrial (aplicații pentru seminar), Ed. Universit ii Oradea, 2006 5. Rada, Ioan Constantin, Economie general I, Editura Asocia iei „Societatea Inginerilor de Petrol i Gaze”, Bucure ti, 2009,CD-ROM 6. Rada, Ioan Constantin, Economie general II, Editura Asocia iei „Societatea Inginerilor de Petrol i Gaze”, Bucure ti, 2009,CD-ROM 7. Rada, Ioan Constantin, Microeconomie. Idei moderne. Vol. I, Editura Asocia iei „Societatea Inginerilor | | |

| | | |
|---|--|--|
| de Petrol i Gaze”, Bucure ti, 2007 | | |
| 8. Rada, Ioan Constantin, Microeconomie. Idei moderne. Vol. II , Editura Asocia iei „Societatea Inginerilor de Petrol i Gaze”, Bucure ti, 2008 | | |
| 9. Rada, Ioan Constantin; Rica, Ivan; M gdoiu, Liliana Doina, Finanțe și credit (note de curs) , Editura Universit ții din Oradea, 2011, CD-ROM | | |
| 10. Rada, Ioan Constantin; Rica, Ivan; M gdoiu, Liliana Doina, Finanțe și credit (aplicații pentru seminar) , Editura Universit ții din Oradea, 2011, CD-ROM | | |
| 8.2 Academic seminar | Teaching methods | No. of hours/ Observations |
| 1. Paper: Consumer concepts 2. Paper: About resources 3. Paper: The concept of competition 4. Paper: The role of the environment in obtaining production factors 5. Report: The information system of the enterprise 6. Paper: Substantiation of production cost decisions 7. Report: The production price and the profit of the entrepreneur | Students receive laboratory reports at least one week in advance, study them, and are randomly tested throughout the laboratory. Students implement the work under the guidance of the teacher. | 4h 4h 4h 4h 4h 4h 4h |
| Bibliography It is the one indicated for the course | | |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

- The content of the discipline can be found in the curriculum of Management and Communication in Engineering from other university centers that have accredited similar specializations (Technical University of Cluj-Napoca, University of Craiova, "Politehnica" University of Timisoara, Gh. Asachi University of Iasi, etc.) and knowledge of the types of electric drives and their operation and design is a stringent requirement of employers in the field (Comau, Faist Mekatronics, Celestica, GMAB, etc.).

10. Evaluation

| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods The evaluation can be done face-to-face or online | 10.3 Percent from the final mark |
|-----------------------|---|---|----------------------------------|
| 10.4 Course | Minimum required conditions for passing the exam (mark 5): in accordance with the minimum performance standard it is necessary to know the fundamental notions required in the subjects, without presenting details on them For 10: thorough knowledge of all subjects is required | Oral examination - Students are given two topics to solve | 70 % |
| 10.5 Academic seminar | - for grade 5, it is necessary to know the structure of the paper and one or two concepts | At each seminar, the students draw up a report, which can be collective, which they | 30% |

| | | | |
|---|---|--|--|
| | in the paper - for grade 10, in-depth knowledge of the topic of the paper and its support during the seminar | support and which is submitted to the debates during the seminars. Each student also receives a grade for the seminar activity during the semester | |
| <p>10.5 Minimum performance standard: Course: Solving and explaining complex problems, associated with the discipline of microeconomics or general economics, specific to the field of engineering and management Academic seminar: - browsing the content of seminar works The timely solution, in individual activities and group activities, in conditions of qualified assistance, of the problems that require the application of principles and rules respecting the norms of professional deontology.</p> | | | |

Completion date:

12.09.2020

Date of endorsement in the

department:

24.09.2020

Date of endorsement in the Faculty

Board:

28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|--|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Department of Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2nd cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering/ Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|---------------------------------------|------------------------------------|--------------|----------|----------------------------|-----------|--------------------|------------|
| 2.1 Name of the subject | Project management | | | | | | |
| 2.2 Holder of the subject | Lect. PhD eng. Coroiu Laura | | | | | | |
| 2.3 Holder of the academic laboratory | Lect. PhD eng. Coroiu Laura | | | | | | |
| 2.4 Year of study | I | 2.5 Semester | 2 | 2.6 Type of the evaluation | Ex | 2.7 Subject regime | AKD |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|-----------|-------------------------|-----------|
| 3.1 Number of hours per week | 4 | of which: 3.2 course | 2 | 3.3 academic laboratory | 2 |
| 3.4 Total of hours from the curriculum | 56 | Of which: 3.5 course | 28 | 3.6 academic laboratory | 28 |
| Distribution of time | | | | | hours |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 30 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 10 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 20 |
| Tutorials | | | | | |
| Examinations | | | | | 9 |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 69 | | | | |
| 3.9 Total of hours per semester | 125 | | | | |
| 3.10 Number of credits | 5 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--------------|
| 4.1 related to the curriculum | (Conditions) |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|--|---|
| 5.1. for the development of the course | - Attendance at least 50% of the courses - The course can be held face to face or online |
| 5.2. for the development of the academic | - The project can be carried out face to face or online - The frequency at project hours below 70% leads to the restoration of the |

| | |
|-----------------------------|------------|
| seminary/laboratory/project | discipline |
|-----------------------------|------------|

6. Specific skills acquired

| | |
|---------------------|--|
| Professional skills | <p><i>C4. Development and evaluation of technical flows, financial economic and business level, advanced management methods.</i></p> <p><i>C5. Project management and enterprise of electrical, electronic and energy marketing and economic agreements.</i></p> <p><i>C6. Knowledge of key issues in the field of communication and management in engineering and from the interference of fields</i></p> |
| Transversal skills | <p><i>CT2. Identify the roles and responsibilities of each member of a pluri-disciplinary team and apply efficient work and relational techniques inside the team.</i></p> <p><i>CT3. Identify the long-life training opportunities and the efficient use (for self development) of informational sources, as well as communication and assisted professional training resources (Internet websites, dedicated software applications, databases, on-line courses etc.) both in Romanian language and some other international spoken language.</i></p> |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|--|
| 7.1 The general objective of the subject | <ul style="list-style-type: none"> The discipline has as objective the familiarization of the students from the master's specialization Management and Communication in Engineering, with the Project Management |
| 7.2 Specific objectives | <ul style="list-style-type: none"> The course aims to present the theoretical elements of the Project Management. The project provides the necessary knowledge to the students about Project manager techniques and tools. |

8. Contents*

| 8.1 Course | Teaching methods | No. of hours/ Observations |
|---|---|-------------------------------|
| 1. Introduction. Construction of the project proposal | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| 2. Organizing projects on project phases. The internal organizational structure of the projects. | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| 3. Project management tasks Project marketing Risk management | Free exposure, with the presentation of the course with video projector, on the board or online | 6h |
| 4. Controlul și asigurarea calității Raportarea rezultatelor proiectelor | Free exposure, with the presentation of the course with video projector, on the board or | 4h |

| | | |
|---|--|----------------------------|
| | online | |
| 5. Project manager techniques and tools The SWOT analysis | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| 6. Evaluation techniques Planning techniques Project monitoring | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| 7. Redactarea raportului tehnic Raportarea Terminarea proiectelor | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| Bibliography 1.Laura Coroiu, <i>Managementul proiectelor</i> , curs în format electronic, 2010; 2.D. Isoc, <i>Managementul proiectelor de cercetare- Proiecte cu finanare publică națională și internațională. Capitalizarea și gestiunea proprietății intelectuale. Ghid practic.</i> Editura Risoprint Cluj Napoca 2007; 3. Mariana Mocanu, Carmen Schuster, <i>Managementul proiectelor Ed a II-a</i> , Colecția afaceri, Editura All Beck, București, 2004; 4.O. Nicolescu, E. Burduș, ... <i>Ghidul managerului eficient, Vol 1</i> , Editura Tehnic București 1993; 5.J.L. Koorey, D.B. Medley, <i>Management Information Systems</i> , South-Western Publishing Co. Cincinnati, Ohio, 1986; 6.K.C.Laudon, J.Price Laudon, <i>Management Information Systems, A Contemporary Perspective</i> , Macmillan Publishing Company, 1988. | | |
| 8.2 Academic project | Teaching methods | No. of hours/ Observations |
| Project manager techniques and tools. Case studies | Students receive the project theme and design methodology and under the guidance of the teacher perform the project stages | 28h |
| Bibliography 1. Laura Coroiu , <i>Managementul proiectelor</i> , curs în format electronic, 2010; 2. Lonnie Pacelli, <i>Consilierul managerului de proiect</i> , Meteor Press 2007, ISBN 978-973-728-215-6 | | |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

- The content of the discipline can be found in the curriculum of Management and Communication in Engineering from other university centers that have accredited similar specializations (Technical University of Cluj-Napoca, University of Craiova, "Politehnica" University of Timisoara, Gh. Asachi University of Iasi, etc.) and knowledge of Project management is a stringent requirement of employers in the field (Comau, FaistMekatronics, Celestica, GMAB, etc.).

10. Evaluation

| | | | |
|------------------|--------------------------|---|----------------------------------|
| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods The evaluation can be done face-to-face or | 10.3 Percent from the final mark |
|------------------|--------------------------|---|----------------------------------|

| | | | |
|---|---|---|------|
| | | online | |
| 10.4 Course | Minimum required conditions for passing the exam (mark 5): in accordance with the minimum performance standard it is necessary to know the fundamental notions required in the subjects, without presenting details on them For 10: thorough knowledge of all subjects is required | Oral examination Students receive for solving each a form with 3 subjects of theory and an application. | 60 % |
| 10.5 Project | Minimum required conditions for promotion (grade 6): a brief overview of the design stages For 10: going through all the design stages, with the completion of the calculations | Oral presentation Following the presentation of the project completed during the semester, each student receives a grade. | 40% |
| <p>10.6 Minimum performance standard: Course: Solving and explaining problems of medium complexity, associated with the discipline of project management. Project: Elaboration of a business plan that aims at the management of the enterprise using knowledge of project management The timely solution, in individual activities and group activities, in conditions of qualified assistance, of the problems that require the application of principles and rules respecting the norms of professional deontology. Responsible assumption of specific tasks in multi-specialized teams and efficient communication at institutional level. Elaboration and argumentative support of the application of a personal professional development plan.</p> | | | |

Completion date:

04.09.2020

Date of endorsement in the department:

24.09.2020

Date of endorsement in the Faculty

Board:

28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Department of Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2nd cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering / Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|---|---------------------------------|--------------|---|----------------------------|-----------------------|--------------------|-----|
| 2.1 Name of the subject | Economic contracts | | | | | | |
| 2.2 Holder of the subject | Lect. PhD jr. Anca P CAL | | | | | | |
| 2.3 Holder of the academic seminar/laboratory/project | Lect. PhD jr. P CAL | | | | | | |
| 2.4 Year of study | II | 2.5 Semester | 3 | 2.6 Type of the evaluation | Continuous Assessment | 2.7 Subject regime | SYD |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|----|---|----|
| 3.1 Number of hours per week | 4 | of which: 3.2 course | 2 | 3.3 academic seminar/laboratory/project | 2 |
| 3.4 Total of hours from the curriculum | 56 | Of which: 3.5 course | 28 | 3.6 academic seminar/laboratory/project | 28 |
| Distribution of time | | | | | |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 38 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 19 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 28 |
| Tutorials | | | | | 0 |
| Examinations | | | | | 9 |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 94 | | | | |
| 3.9 Total of hours per semester | 150 | | | | |
| 3.10 Number of credits | 6 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--------------|
| 4.1 related to the curriculum | (Conditions) |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|---|---|
| 5.1. for the development of the course | - Attendance at least 50% of the courses - The course can be held face to face or online |
| 5.2. for the development of the academic laboratory/project | - Mandatory presence at least 70% of the academic seminar; - The academic seminar can be held face to face or online - The frequency at academic seminar hours below 70% leads to the restoration of the discipline |

| 6. Specific skills acquired | |
|-----------------------------|--|
| Competen e profesional e | <ul style="list-style-type: none"> ▪ C1. Knowing the main types of economic processes and phenomena of communication, elements of microeconomic theory and practical aspects of financial and economic flows at business. C3. Planning, scheduling and management of enterprises and related logistics networks and assisted tracking of production. ▪ C4. Development and evaluation of technical flows, financial economic and business level, advanced management. methods. C5. Project management and enterprise of electrical, electronic and energy marketing and economic agreements. C6. Knowledge of key issues in the field of communication and management in engineering and from the interference of fields |
| Competen e transersale | <ul style="list-style-type: none"> ▪ CT1. Responsibly apply the principles, norms and values of professional ethics in order to achieve the goals and identify the objectives, the available resources, the steps to be done and time spent for finishing the works, the deadlines, and the risks involved. CT2. Identify the roles and responsibilities of each member of a pluri-disciplinary team and apply efficient work and relational techniques inside the team. CT3. Identify the long-life training opportunities and the efficient use (for self development) of informational sources, as well as communication and assisted professional training resources (Internet websites, dedicated software applications, databases, on-line courses etc.) both in Romanian language and some other international spoken language. |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|--|
| 7.1 The general objective of the subject | Familiarizing students with notions from unstudied fields, knowledge, understanding, explanation and interpretation of the main provisions contained in normative acts of major importance for any graduate of higher education and especially for those in the field of Engineering Sciences |
| 7.2 Specific objectives | The course aims to teach the basic concepts of the discipline in a normative, descriptive and applied context The activity at the seminar is based on specific applications of the chapters taught in the course based on which it will be followed the understanding and application in practice of the knowledge acquired in the course, as well as case studies on the applications of contract theory |

8.8. Contents

| 8.1.Course | Teaching methods | No. of hours/ Observations |
|--|---|-------------------------------|
| The contract - source of commercial obligations Conclusion of commercial contracts. | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| Classification of contracts | Free exposure, with the presentation of the course with | 2h |

| | | |
|--|---|-------------------------------|
| | video projector, on the board or online | |
| The commercial sale-purchase contract, definition and features, conditions of validity | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| The effects of the sale-purchase contract. Obligations of the seller. Obligations of the buyer Varieties of sale commercial purchase | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| The mandate contract | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| The commission contract. | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| The lease contract. | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| The leasing contract. | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| The franchise agreement. | Free exposure, with the presentation of the course with video projector, on the board or online | 4h |
| The payment instruments | Free exposure, with the presentation of the course with video projector, on the board or online | 2h |
| <p>Bibliography</p> <p>1.Radu Stancu, Doinel Dinuic , M d lina Stancu, Elemente de drept civil i comercial, Editura Funda iei “România de Mâine”, Bucure ti, 2006</p> <p>2.Grigore Florescu, Drept comercial român, vol. I, Editura Funda iei “România de Mâine”, Bucure ti, 2005</p> <p>3. Stanciu D. C rpenaru, Drept comercial român, Editura ALL Beck, edi ia a V-a</p> <p>4.Marin Popescu, Drept comercial, Editura Funda iei România de Mâine, Bucure ti, 2002</p> <p>5.Smaranda Angheni, Magda Valanciu, Camelia Stoica, Drept comercial, edi ia a II-a, Editura Oscar Print, Bucure ti, 2001</p> <p>6. Ivan Rica , Contracte economice, Editura Universit ii din Oradea ,2010, suport de curs , CD Codul civil român</p> | | |
| 8.2 Academic seminar/laboratory/project | Teaching methods | No. of hours/ Observations |

| | | |
|---|--|-----|
| The contract - source of commercial obligations | Students receive academic seminar papers at least one week in advance, study them and take a theoretical test at the beginning of the academic seminar. Then, the students solves cases under the guidance of the teacher. | 2 h |
| Classification of contracts | | 2h |
| The commercial sale-purchase contract- conditions of validity | | 4 h |
| The effects of the sale-purchase contract. Varieties of sale commercial purchase | | 2 h |
| The mandate contract | | 4 h |
| The commission contract | | 2 h |
| The lease contract | | 2 h |
| The leasing contract | | 4 h |
| The franchise agreement | | 4 h |
| The payment instruments | | 2h |
| Bibliography | | |
| Codul civil român | | |
| Ivan Rica , Contracte economice, Editura Universit ii din Oradea ,2010, suport de curs , CD | | |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

- The content of the discipline can be found in the curriculum of Economic Engineering in Electric, Electronic and Energetic Field and other university centers that have accredited these specializations (Technical University of Cluj-Napoca, "Politehnica" University of Timisoara, etc.) and knowledge of the types of law is a stringent requirement of employers in the field.

10. Evaluation

| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods | 10.3 Percent from the final mark |
|-----------------------|---|--|----------------------------------|
| | | The evaluation can be done face-to-face or online | |
| 10.4 Course | Minimum required conditions for passing the exam (mark 5): in accordance with the minimum performance standard it is necessary to know the fundamental notions required in the subjects, without presenting details on them For 10: thorough knowledge of all subjects is required | Oral examination Students receive for solving each a form with 2 subjects of theory and an application. | 60 % |
| 10.5 Academic seminar | Minimum required conditions for promotion (grade 5): in accordance with the minimum performance standard recognition of the stands used to carry out the academic seminar works, without presenting | Test + practical application At each academic seminar students receive a test and a grade. Each student also receives a grade for academic seminar work during the semester. | 40% |

| | | | |
|---|---|--|--|
| | details on them For 10: detailed knowledge of how to perform all academic seminar work. | | |
| <p>10.6 Minimum performance standard: The course presents the elements, principles, ideas regarding the theoretical bases of the development of a technical activity in a European legislative framework. We aim, in particular, to form the discernment necessary for the objective assessment and retention by students of the issue of European legislation.</p> | | | |

Completion date:

17.09.2020

Date of endorsement in the department:

24.09.2020

Date of endorsement in the Faculty

Board:

28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Department of Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2nd cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering / Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|---|------------------------------------|--------------|----------|----------------------------|-----------|--------------------|-----------|
| 2.1 Name of the subject | Innovation and technology | | | | | | |
| 2.2 Holder of the subject | Prof. PhD eng. Teodor Leuca | | | | | | |
| 2.3 Holder of the academic laboratory/project | Prof. PhD eng. Teodor Leuca | | | | | | |
| 2.4 Year of study | II | 2.5 Semester | 3 | 2.6 Type of the evaluation | Ex | 2.7 Subject regime | SD |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|-----------|----------------------|-----------|
| 3.1 Number of hours per week | 4 | of which: 3.2 course | 2 | 3.3 academic project | 1 |
| 3.4 Total of hours from the curriculum | 42 | Of which: 3.5 course | 28 | 3.6 academic project | 14 |
| Distribution of time | | | | | 83h |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 30 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 14 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 30 |
| Tutorials | | | | | 0 |
| Examinations | | | | | 9 |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 83 | | | | |
| 3.9 Total of hours per semester | 125 | | | | |
| 3.10 Number of credits | 5 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--------------|
| 4.1 related to the curriculum | (Conditions) |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|---|---|
| 5.1. for the development of the course | - Attendance at least 50% of the courses - The course can be held face to face or online |
| 5.2. for the development of the academic laboratory/project | - Mandatory presence at all project hours; - The project can be carried out face to face or online - Students come with the observed laboratory works |

| | |
|--|---|
| | <ul style="list-style-type: none"> - A maximum of 2 works can be recovered during the semester (30%); - The frequency at project hours below 70% leads to the restoration of the discipline |
|--|---|

6. Specific skills acquired

| | |
|---------------------|--|
| Professional skills | <p>C1. Knowing the main types of economic processes and phenomena of communication, elements of microeconomic theory and practical aspects of financial and economic flows at business</p> <p>C4. Elaboration and evaluation of technical, economic and financial flows at business level, advanced management methods</p> |
| Transversal skills | <p>TC2. Identify the roles and responsibilities of each member of a pluri-disciplinary team and apply efficient work and relational techniques inside the team.</p> |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|--|
| 7.1 The general objective of the subject | <ul style="list-style-type: none"> ♣ Implementing theories, ideas on the theoretical and design bases of innovation and technology management. ♣ Training the necessary competencies for the objective assessment and retention by master students of the issue of innovation and technology management. |
| 7.2 Specific objectives | |

8. Contents*

| 8.1 Course | Teaching methods | No. of hours/ Observations |
|--|---|-------------------------------|
| 1. Key aspects of innovation management | Free exposure, with the presentation of the course with video projector, on the board or online | 4 h |
| 2. Innovation - as a management process | Free exposure, with the presentation of the course with video projector, on the board or online | 4 h |
| 3. Elaboration of the necessary framework for the innovation strategy | Free exposure, with the presentation of the course with video projector, on the board or online | 4 h |
| 4. The position of the national and competitive environment | Free exposure, with the presentation of the course with video projector, on the board or online | 4 h |

| | | |
|---|--|-------------------------------|
| 5. Pathways: exploitation of technological trajectories | Free exposure, with the presentation of the course with video projector, on the board or online | 4 h |
| 6. Processes: integration for strategic learning | Free exposure, with the presentation of the course with video projector, on the board or online | 4 h |
| 7. The cognitive process based on market realities | Free exposure, with the presentation of the course with video projector, on the board or online | 4 h |
| <p>Bibliography</p> <p>1.Abudi, Gina (2010): <i>Project Managers Need Leadership Skills</i>, URL: http://www.projectsmart.co.uk/project-managers-need-leadership-skills.html, site accesat ultima data: 24.01.2012.</p> <p>2.Ciobotaru, Daniela / Milo , Teodor / Ciobotaru, Dan (2010): <i>Triunghiul de aur al realizării unui proiect tehnic: tehnic versus calitate, costuri de realizare, termene de execuție</i>, în: Buletinul AGIR, nr. 2-3, aprilie-septembrie, pp. 176-180.</p> <p>3.Holzbaur, Ulrich D. (2009): <i>Project Management in Research</i>, în: Lategan, Laetus O. K. / Holzbaur, Ulrich D. (eds.), <i>Managing applied research: theories, cases and perspectives</i>, Aalener Schriften zur Betriebswirtschaft, pp. 40-52.</p> <p>4.Pollack, Julien (2006): <i>The changing paradigms of project management</i>, în: International Journal of Project Management, doi: 10.1016/j.ijproman.2006.08.002.</p> <p>5.Thomas, Graeme / Fernández, Walter (2008): <i>Success in IT projects: A matter of definition?</i>, în: International Journal of Project Management, 26, pp. 733-742.</p> <p>*Anexa A, Echipamente inovative de încălzire prin inducție, Teze de doctorat coordonate de profesor dr. ing. Teodor LEUCA, Biblioteca Universității din Oradea</p> <p>**Anexa B, Echipamente inovative de încălzire în câmp de înaltă frecvență, Teze de doctorat coordonate de profesor dr. ing. Teodor LEUCA, Biblioteca Universității din Oradea.</p> | | |
| 8.2 Academic project | Teaching methods | No. of hours/ Observations |
| Theme 1: Innovative photovoltaic energy conversion systems Theme 2: Innovative wind energy conversion systems Theme 3: Innovative interior lighting systems Topic 4: Smart buildings - BMS | Master students receive the design theme and design methodology and under the guidance of the teacher perform the project stages | 10h |
| Conclusions | | 2h |
| Project support | | 2h |
| <p>Bibliography</p> <ol style="list-style-type: none"> [Băloiu, Liviu, Mihail și Frățineanu, Ioan – <i>Gestiunea inovației</i>, Ed. Economică, București, 2001 Christensen, Clayton M – <i>The innovator's dilemma</i>, Harper Business Essentials, New York, 2000, Phillips, Fred Y. – <i>Market oriented Technology Management – Innovating for Profit in Entrepreneurial Times</i>, Springer-Verlag, Heidelberg, 2001 Tidd, Joe; Bessant, John și Pavitt, Keith – <i>Managing Innovation</i>, John Wiley & Sons Ltd, Chichester, West Sussex, 2001 Utterback, James M – <i>Mastering the dynamics of innovation</i>, Harvard Business School Press, Boston, 1996 | | |

6. Von Stamm, Bettina – Managing Innovation, Desing & Creativity, John Wiley & Sons Ltd,Chichester, West Sussexd, 2003

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

- The content of the discipline can be found in the curriculum of Management and Communication in Engineering from other university centers that have accredited these specializations (Technical University of Cluj-Napoca, University of Craiova, "Politehnica" University of Timisoara, Gh. Asachi University of Iasi, etc.) and knowledge of the types of electric drives and their operation and design is a stringent requirement of employers in the field (Comau, Faist Mekatronics, Celestica, GMAB, etc.).

10. Evaluation

| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods The evaluation can be done face-to-face or online | 10.3 Percent from the final mark |
|---|---|--|----------------------------------|
| 10.4 Course | Minimum required conditions for passing the exam (mark 5): in accordance with the minimum performance standard it is necessary to know the fundamental notions required in the subjects, without presenting details on them For 10: thorough knowledge of all subjects is required | Oral examination Students sustain an oral exam | 60 % |
| 10.5 Project | - for grade 6, going through the design stages, without deepening the calculations - for grade 10, completion of all design stages, with completion of calculations and power supply and control diagrams | Oral support Following the presentation of the project made during the semester, each master student receives a grade, separate from the exam. | 40% |
| <p>10.6 Minimum performance standard:</p> <ul style="list-style-type: none"> - Critical evaluation of the strategic performance of the teams. - Manifesting autonomy in choosing a learning route and demonstrating understanding of learning processes. - Communicating project results, methods and key principles to an audience of specialists and non-specialists, using appropriate techniques. - Careful observation, reflection and decision-making in order to change social norms and interpersonal relationships. - Problem solving by integrating complex, sometimes incomplete, sources of information in new and unfamiliar contexts. - Demonstration of experience in operational interactions for change management in a complex context. - Manifestation of an active behavior towards a series of social, scientific and ethical aspects that appear in work or study. | | | |

Completion date:

12.09.2020

**Date of endorsement in the
department:**

24.09.2020

**Date of endorsement in the Faculty
Board:**

28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Department of Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2nd cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering / Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|---|------------------------------------|--------------|----------|----------------------------|-----------|--------------------|-----------|
| 2.1 Name of the subject | Quality Engineering | | | | | | |
| 2.2 Holder of the subject | Prof. PhD eng. Gabriela Ton | | | | | | |
| 2.3 Holder of the academic laboratory/project | Prof. PhD eng. Gabriela Ton | | | | | | |
| 2.4 Year of study | II | 2.5 Semester | 3 | 2.6 Type of the evaluation | Ex | 2.7 Subject regime | CA |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|-----------|-------------------------|------------|
| 3.1 Number of hours per week | 4 | of which: 3.2 course | 2 | 3.3 academic laboratory | 2 |
| 3.4 Total of hours from the curriculum | 56 | Of which: 3.5 course | 28 | 3.6 academic laboratory | 28 |
| Distribution of time | | | | | 69h |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 30 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 10 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 20 |
| Tutorials | | | | | 0 |
| Examinations | | | | | 9 |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 69 | | | | |
| 3.9 Total of hours per semester | 125 | | | | |
| 3.10 Number of credits | 5 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--------------|
| 4.1 related to the curriculum | (Conditions) |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|---|---|
| 5.1. for the development of the course | - Attendance at least 50% of the courses - The course can be held face to face or online |
| 5.2. for the development of the academic laboratory/project | - Mandatory presence at all laboratories; - The laboratory/project can be carried out face to face or online - Students come with the observed laboratory works |

| | |
|--|--|
| | <ul style="list-style-type: none"> - A maximum of 2 works can be recovered during the semester (30%); - The frequency at laboratory hours below 70% leads to the restoration of the discipline |
|--|--|

| 6. Specific skills acquired | |
|------------------------------------|---|
| Professional skills | <p>C5. Technical and technological design of processes belonging to electric, electronic and energy engineering systems, structures and industry, according to quality requirements.</p> <p>C6. Knowledge of key issues in the field of management and communication in engineering and in the area of interference between fields</p> |
| Transversal skills | <p>TC1. Responsibly apply the principles, norms and values of professional ethics in order to achieve the goals and identify the objectives, the available resources, the steps to be done and time spent for finishing the works, the deadlines, and the risks involved.</p> <p>TC2. Identify the roles and responsibilities of each member of a pluri-disciplinary team and apply efficient work and relational techniques inside the team.</p> |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|---|
| 7.1 The general objective of the subject | <ul style="list-style-type: none"> • Deepening students' knowledge on keeping under control, ensuring and improving quality; • The main models of quality management systems, focusing on the model offered by the ISO 9000 series of standards; • elements related to the audit and certification of quality management systems |
| 7.2 Specific objectives | |

8. Contents*

| 8.1 Course | Teaching methods | No. of hours/ Observations |
|--|---|-------------------------------|
| <p>1. The quality</p> <p>1.1. The notion of quality. Definition and meanings</p> <p>1.2. Quality characteristics</p> <p>1.3. Quality components</p> <p>1.4. The quality loop. The spiral of quality</p> <p>1.1. 1.5. Statistical quality management</p> | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| <p>2. Quality assurance</p> <p>2.1 The concept of total quality</p> <p>2.2 Quality system</p> <p>2.2.1 Main concepts</p> <p>2.2.2 The need to implement a quality system</p> <p>2.2.3 Situations in which the quality system is implemented</p> <p>2.2.4 ISO standards series 9000: 1994 on quality systems</p> <p>2.2.5 Selecting the quality system model</p> <p>2.2.6 Quality system documents</p> <p>2.2.7 Quality Manual - MQ</p> <p>2.2.8 System function procedures - PFS</p> <p>2.2.9 Working procedures / instructions-P / I-L</p> <p>2.2.10 Quality plans - PC</p> <p>2.2.11 Audit plans - PA Quality records - CI</p> | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |

| | | |
|--|---|-----|
| <p>3. ISO standards series 9000: 2006</p> <p>3.1 Quality and the year 2006</p> <p>3.1.1 ISO 9000: 2006 standard</p> <p>3.1.1.1 Vocabulary</p> <p>3.1.1.2 Fundamental principles of quality management systems</p> <p>3.1.2 The ISO 9001: 2006 standard</p> <p>3.1.2.1 Characteristic features</p> <p>3.1.2.2 The provisions of the standard</p> <p>3.1.3 ISO 9004: 2006 standard</p> | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| <p>4. ISO standards series 9000: 2006</p> <p>4.1 Quality and the year 2006</p> <p>4.1.1 ISO 9000: 2006 standard</p> <p>4.1.1.1 Vocabulary</p> <p>4.1.1.2 Fundamental principles of quality management systems</p> <p>4.1.2 The ISO 9001: 2006 standard</p> <p>4.1.2.1 Characteristic features</p> <p>4.1.2.2 The provisions of the standard</p> <p>4.1.3 ISO 9004: 2006 standard</p> | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| <p>5. Quality costs</p> <p>5.1 Non-quality costs</p> <p>5.2 Structure of costs related to quality, to the manufacturer</p> <p>5.3 Structure of costs related to quality, to the beneficiary</p> | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| <p>6. Methods, techniques and tools of analysis and evaluation used to improve quality</p> <p>6.1 Quality index method</p> <p>6.2 Histogram method</p> <p>6.3 Pareto Diagram</p> <p>6.4 Dementia method (penalty for defects)</p> <p>6.5 Direct comparative method</p> <p>6.6 Cause-effect diagram</p> | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| <p>7. Benchmarking and its stages</p> <p>7.1 The notion of benchmarking</p> <p>7.2 Definitions of benchmarking</p> <p>7.3 Brief history of benchmarking</p> <p>7.4 Types of benchmarking</p> <p>7.5 The benchmarking process</p> <p>7.5.1 When do we use benchmarking?</p> <p>7.5.2. Stages of benchmarking</p> | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| <p>8. Evaluation of cognitive enterprise processes, system of quality indicators</p> <p>8.1 The system of quality indicators</p> <p>8.2 Development and implementation of the quality indicators system</p> <p>8.2.1 Systematic data collection</p> <p>8.2.2 Evaluation and presentation of quality indicators at the appropriate management level</p> <p>8.2.3 Initiation of interventions in case of unfavorable changes</p> <p>8.2.4 Implementation of interventions according to the values of the indicators</p> | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| <p>9. The motivational system of quality management activities</p> <p>9.1 The process of motivation</p> <p>9.2 Motivational theories</p> <p>9.2.1 Maslow: The theory of the hierarchy of needs</p> <p>9.2.2 Herzberg: The two-factor theory</p> <p>9.3 Process theory of motivation The integrated model of</p> | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |

| | | |
|---|--|-------------------------------|
| motivation 9.4 Motivation tasks during the implementation and functioning of the quality management system | | |
| 10. Certification of quality management systems 10.1 Certification bodies 10.2 Staff certification 10.3 Terminology (according to EN 45000 series standards) 10.4 Areas of certification 10.5 Certification of products or services 10.6 Implications of affixing the CE marking 10.7 Products that require marking | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| 11. Features and functions of quality management 11.1 Existence of the quality system 11.2 Integration in the management of the organization 11.3 Principles of quality management | | |
| 12. TQM Terminology Total quality Management through total quality | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| 13. Excellence 13.1 The notion of excellence 13.2 The road to excellence 13.3 Models of excellence: EFQM, MBNQA etc. 13.4 Six Sigma 13.3 Quality Awards | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| 14. Quality where? Integrated management systems 14.1 Other standardized management systems (environment, occupational health and safety, etc.) 14.2 Advantages of integrating management systems 14.3 Ways to achieve an integrated system | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| Bibliography [1]. Panaite, V., Munteanu, R., Control statistic și fiabilitate, București, Ed. Didactic și Pedagogic, 1982; [2]. C. Munteanu V.M., Mihalache A., Bazele fiabilității, București, Ed. Tehnic, 1983 [3]. Gabriela Ton Fiabilitatea sistemelor, Ed. Universității din Oradea, 2002; [4]. Panaite, V, Popescu M., Calitatea produselor și fiabilitate, București, Matrix Rom, 2003; [5]. Mihoc Gh., Muja A., Diatcu E., Bazele matematicii ale teoriei fiabilității, Cluj-Napoca, Ed. Dacia, 1976. Panaite, V., Munteanu, R., Control statistic și fiabilitate, București, Ed. Didactic și Pedagogic, 1982. | | |
| 8.2 Academic laboratory | Teaching methods | No. of hours/ Observations |
| Laboratory work 1. Descriptive analysis of the quality characteristic 2. Variation intervals and stability of the technological manufacturing process 3. Making and interpreting a measurement histogram 4. Control by measurement. Completion of the control sheet | Students receive laboratory papers at least one week in advance, study them, inspect them, and take a theoretical test | 2h 4 h 4 h 4 h |

| | | |
|---|--|-----|
| 5. Attribute control. Completion of the control sheet | at the beginning of | 4 h |
| 6. Dimensional control using statistical calculation | the laboratory. Then, | 4 h |
| 7. Capability analysis. Maintaining the accuracy of measuring and control equipment | the students carry out | 4 h |
| 8. Closing the situation at the laboratory | the practical part of the work under the guidance of the teacher | 2 h |
| Bibliografie [1]. Munteanu, R., Rusu, T., <i>Introducere în ingineria calității</i> , Editura Mediamira, Cluj-Napoca, 2002. [2]. Ton, G., <i>Calitatea în electrotehnică</i> , ISBN 973-613-544-6, Ed. Universității din Oradea, 2016; [3]. Olaru, M., <i>Managementul calității</i> , Editura Economica, București, 1999. [4]. Băleanu, Cristian <i>Managementul îmbunătățirii continue</i> , Editura Expert, București, 1996 [5]. Mitonneau, Henri – <i>O nouă orientare în managementul calității: apte instrumente noi</i> , Editura Tehnică, București, 1998 [6]. Oprean, C., <i>Managementul calității</i> , Editura Universității „L. Blaga”, Sibiu, 2002 Stanciu, Ion, <i>Managementul calității totale</i> , Editura Cartea Universitară, București, 2003 [7]. Popescu, S., s.a., <i>Bazele Managementului Calității</i> - Editura Casa Cartii de Stiinta, Cluj Napoca, 1999, ISBN 973-9404-61-8 [8]. Hoyle, D., <i>ISO 9000 Quality Systems Handbook</i> , Fifth edition, Butterworth-Heinemann, 2005 [9]. ***, <i>Standardele: SR EN ISO 9000:2006, SR EN ISO 9001:2001, SR EN 9004:2001, SR EN 19011:2003, SR ISO/TS 16949:2004, SR EN ISO 22000:2005, ASRO</i> [10]. http://www.bcub.ro/continut/unibib/calitatea_indicator.php | | |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

- The content of the discipline can be found in the curriculum of Engineering and management and other university centers that have accredited these specializations (Technical University of Cluj-Napoca, University of Craiova, "Politehnica" University of Timisoara, Gh. Asachi University of Iasi, etc.) and knowledge of the types of electric drives and their operation and design is a stringent requirement of employers in the field (Comau, Faist Mekatronics, Celestica, GMAB, etc.).

10. Evaluation

| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods | 10.3 Percent from the final mark |
|------------------|---|--|----------------------------------|
| 10.4 Course | Minimum required conditions for passing the exam (mark 5): in accordance with the minimum performance standard it is necessary to know the fundamental notions required in the subjects, without presenting details on them For 10: thorough knowledge of all subjects is required | The evaluation can be done face-to-face or online Written exam Students receive for solving each a form with 3 subjects of theory and an application. | 60 % |
| 10.5 Laboratory | - cunoștințe pentru nota 5: utilizarea indicatorilor statistici de variație | Test + aplicație practică La fiecare laborator studenții primesc un test | 20% |

| | | | |
|--|---|---|--|
| | <p>grupare; cuno tin e pentru nota 6 realizarea fi ei de control prin m surare; cuno tin e pentru nota 7: realizarea histogramelor, graficelor Gantt cuno tin e pentru nota 8: analiza SWOT; cuno tin e pentru nota 9 utilizarea corela iilor in metodele de analiza a calit ii cuno tin e pentru nota 10 Interpretarea indicatorilor statistici ai procesului.</p> | <p>i o not . De asemenea, fiecare student prime te o not pentru activitatea la laborator în timpul semestrului i pentru dosarul cu lucr rile de laborator. Astfel rezult o medie pentru laborator.</p> | |
|--|---|---|--|

10.6 Minimum performance standard:
Course: After completing the discipline students will be able to:
- After completing the discipline students will be able to:
- to configure a management system for an organization;
- to compose and analyze the factors that influence the quality of a product / service;
- Participation in at least half of the courses.
SMC for a considered organizationLaboratory: the operating block scheme – system failure is drawn up,
the implementation of the logical reliability scheme;
Ability to calculate and use statistical indicators for the calculation of statistical indicators for the
statistical management of processes
- Participation in all laboratory work
The timely solution, in individual activities and group activities, in conditions of qualified assistance, of
the problems that require the application of principles and rules respecting the norms of professional
deontology.
Responsible assumption of specific tasks in multi-specialized teams and efficient communication at
institutional level.
Elaboration and argumentative support of the application of a personal professional development plan.

Completion date:

09.09.2020

**Date of endorsement in the
department:**

24.09.2020

Date of endorsement in the Faculty

Board:

28.09.2020

SUBJECT DESCRIPTION

1. Data related to the study program

| | |
|----------------------------------|---|
| 1.1 Higher education institution | UNIVERSITY OF ORADEA |
| 1.2 Faculty | Faculty of Electrical Engineering and Information Technology |
| 1.3 Department | Department of Control Systems Engineering and Management |
| 1.4 Field of study | Engineering and management |
| 1.5 Study cycle | Master (2nd cycle) |
| 1.6 Study program/Qualification | Management and Communication in Engineering / Master of Science in Engineering |

2. Data related to the subject

| | | | | | | | |
|---|------------------------------------|--------------|----------|----------------------------|-----------|--------------------|-----------|
| 2.1 Name of the subject | Strategic Management | | | | | | |
| 2.2 Holder of the subject | Prof. PhD eng. Gabriela Ton | | | | | | |
| 2.3 Holder of the academic project /project | Prof. PhD eng. Gabriela Ton | | | | | | |
| 2.4 Year of study | II | 2.5 Semester | 3 | 2.6 Type of the evaluation | Ex | 2.7 Subject regime | CA |

3. Total estimated time (hours of didactic activities per semester)

| | | | | | |
|--|------------|----------------------|-----------|----------------------|-----------|
| 3.1 Number of hours per week | 3 | of which: 3.2 course | 1 | 3.3 academic project | 2 |
| 3.4 Total of hours from the curriculum | 56 | Of which: 3.5 course | 14 | 3.6 academic project | 42 |
| Distribution of time | | | | | 69h |
| Study using the manual, course support, bibliography and handwritten notes | | | | | 30 |
| Supplementary documentation using the library, on field-related electronic platforms and in field-related places | | | | | 10 |
| Preparing academic seminars/laboratories/ themes/ reports/ portfolios and essays | | | | | 20 |
| Tutorials | | | | | 0 |
| Examinations | | | | | 9 |
| Other activities. | | | | | |
| 3.7 Total of hours for individual study | 69 | | | | |
| 3.9 Total of hours per semester | 125 | | | | |
| 3.10 Number of credits | 5 | | | | |

4. Pre-requisites (where applicable)

| | |
|-------------------------------|--|
| 4.1 related to the curriculum | General management knowledge, quality, statistics. |
| 4.2 related to skills | |

5. Conditions (where applicable)

| | |
|---|---|
| 5.1. for the development of the course | - Attendance at least 50% of the courses - The course can be held face to face or online |
| 5.2. for the development of the academic project /project | - Mandatory presence at all laboratories; - The project can be carried out face to face or online - Students come with the observed project works |

| | |
|--|---|
| | <ul style="list-style-type: none"> - A maximum of 2 works can be recovered during the semester (30%); - The frequency at project hours below 70% leads to the restoration of the discipline |
|--|---|

| 6. Specific skills acquired | |
|------------------------------------|---|
| Professional skills | <p>C3. Planning, scheduling and management of enterprises, as well as associated logistics networks, as well as assisted production tracking</p> <p>C4. Elaboration and evaluation of technical, economic and financial flows at business level, advanced management methods</p> <p>C6. Knowledge of key issues in the field of management and communication in engineering and in the area of interference between fields.</p> |
| Transversal skills | <p>TC1. Responsibly apply the principles, norms and values of professional ethics in order to achieve the goals and identify the objectives, the available resources, the steps to be done and time spent for finishing the works, the deadlines, and the risks involved.</p> <p>TC2. Identify the roles and responsibilities of each member of a pluri-disciplinary team and apply efficient work and relational techniques inside the team.</p> |

7. The objectives of the discipline (resulting from the grid of the specific competences acquired)

| | |
|--|---|
| 7.1 The general objective of the subject | <ul style="list-style-type: none"> • Integrating the knowledge obtained by students in the fields of enterprise functions. The integrative view will serve to make decisions that take into account the interaction between the economic and social environment of business and the specific conditions created by the strengths and weaknesses of the organization, in order to gain competitive advantage. |
| 7.2 Specific objectives | <ul style="list-style-type: none"> • Formulation of strategies at the level of the enterprise as a whole, at the level of the developed business and at the functional level • Ensuring the implementation and control of the strategy. |

8. Contents*

| 8.1 Course | Teaching methods | No. of hours/ Observations |
|--------------------------------------|---|-------------------------------|
| General conditions in business today | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| Market economy and strategy | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| External analysis | Free exposure, with the presentation of the course with video projector, on the board or online | 4 h |
| Internal analysis | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |

| | | |
|--|--|--|
| Business level strategies | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| General conditions in business today | Free exposure, with the presentation of the course with video projector, on the board or online | 2 h |
| Bibliografie [1]. Porter, M. – Strategie concurențială, Ed. Teora, București, 2001 [2]. Porter, M. – Avantajul concurențial, Ed. Teora, București, 2001 [3]. Russu, C. – Management strategic, Ed. All Beck, București, 1999 [4]. Băcanu, B. – Tehnici de analiză în managementul strategic, Ed. Polirom, Iași, 2007 [5]. Candea, D. (coord.) – Dezvoltare durabilă și responsabilitate socială corporativă, Ed. UTPRES, Cluj-Napoca, 2010 [6]. Candea, D. – Management strategic | | |
| 8.2 Academic project | Teaching methods | No. of hours/ Observations |
| 1. The case of J. Peterman (strategy formation) 2. The Covtex case PEST Analysis – 3. The Case of "12 Countries to Look At" 4. The Ryanair case SWOT analysis 5. Tatrakrystall case T 6. The Dover Apparel Company case 7. Supporting the project and ending the situation | Students receive project papers at least one week in advance, study them, inspect them, and take a theoretical test at the beginning of the project. Then, the students carry out the practical part of the work under the guidance of the teacher | 6 h 6 h 6 h 6 h 6 h 6 h |
| Bibliography 1. Băcanu, B. – Tehnici de analiză în managementul strategic, Ed. Polirom, Iași, 2007 2. Candea, D. (coord.) – Dezvoltare durabilă și responsabilitate socială corporativă, Ed. UTPRES, Cluj-Napoca, 2010 | | |

9. Corroboration of the discipline content with the expectations of the representatives of epistemological community, professional associations and representative employers in the field related to the program

| |
|--|
| <ul style="list-style-type: none"> The content of the discipline can be found in the curriculum of Engineering and management and other university centers that have accredited these specializations (Technical University of Cluj-Napoca, University of Craiova, "Politehnica" University of Timisoara, Gh. Asachi University of Iasi, etc.) and knowledge of the types of electric drives and their operation and design is a stringent requirement of employers in the field (Comau, Faist Mekatronics, Celestica, GMAB, etc.). |
|--|

10. Evaluation

| | | | |
|------------------|--------------------------|--|----------------------------------|
| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods The evaluation can be done face-to-face or online | 10.3 Percent from the final mark |
|------------------|--------------------------|--|----------------------------------|

| | | | |
|--|---|--|------|
| 10.4 Course | Minimum required conditions for passing the exam (mark 6): in accordance with the minimum performance standard it is necessary to know the fundamental notions required in the subjects, without presenting details on them For 10: thorough knowledge of all subjects is required | Written exam Students receive for solving each a form with 3 subjects of theory and an application. | 60 % |
| 10.5 Project | Minimum required conditions for promotion (grade 6): identification of the elements of the system under consideration; establishing functional links between the system and its components; the operating block scheme – system downtime is drawn up. For 10: the deployment of management strategy, verification of compliance with the initial conditions | Test + practical application At each project students receive a test and a grade. Each student also receives a grade for project work during the semester and for the project work file. This results in an average for the project. | 40% |
| <p>10.6 Minimum performance standard:</p> <p>Course: After completing the discipline students will be able to: - to configure a management system for an organization; - to compose and analyze the factors that influence the quality of a product / service. knowledge for 10 grade</p> <p>Project: - Ability to calculate and use statistical indicators for the calculation of statistical indicators for the statistical management of processes knowledge for 10 grade solving in due time, in individual and group activities, in conditions of qualified assistance, the problems that require the application of the principles and rules of observance of the norms of professional deontology. responsible assumption of specific tasks in multi-specialized teams and effective communication at institutional level. Elaboration and argumentative support of the application of a personal professional development plan</p> | | | |

Completion date:

08.09.2020

Date of endorsement in the department:

24.09.2020

Date of endorsement in the Faculty

Board:

28.09.2020