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**Environment and Catastrophy Management MSc**

**Curriculum Plan**

**Alfred Nobel University**

**Alfred Nobel Open Business School Switzerland**

# **Objectives**

This Masters programme is designed to provide you with the skills and knowledge of the major business sectors to enable you to apply strategic approaches of business operations. You will gain an in-depth understanding of changing trends in international economy and, based on this knowledge, you will be able to manage human resources and other corporate activities successfully.

Upon completion of the course you will have the academic skills to continue studying at one of our Doctoral programmes. In addition, you will be equipped with all the specialized skills to devise, organize and manage workflows at an international level, both in the business and public sectors, with specialialised knowledge in your selected pathway. You will develop the professional skills to recognise business problems, to carry out informed decision-making by collecting and analysing the necessary information.

# **Course structure**

**Masters’ (MSc) degree:**

1. Economics, business and methodological knowledge (30 credits)
2. Courses of the selected specialisation (30 credits)
3. Advanced courses (30 credits)

**Specialisations**

## Environment and Catastrophy Management

The programme is designed for graduates or career changers with an ambition to work in senior positions of catastrophy management or environment protection. Courses provide high level of theoretical and practical knowledge of prevention, comprehension, coordination and management of catastrophies and environmental issues.

**Assignments and exams**

**Assignments**

For modules assessed via assignments students must study the entire content of the course and provide a detailed analysis of it in the form of a written assignment. Indicative content, learning outcomes and assessment criteria are set for each course. Successful assigments will present analytical thinking along with the ability to assess theories and apply them for relevant complex business cases. Assessment is primarily based on the level of fulfilling the learning outcomes through the realization of the assessment criteria. Four grades are applied in the assessment: fail, pass, merit and distinction. In case of failure, students may review their assignment based on the assessment received and they may resubmit the revised work.

(Find the „a” sign in the curriculum)

**Exams**

Closed book written examinations take place on the premises of the college. The required learning outcomes and several relevant tasks are issued at the beginning of the course. At the exam, students are requested to complete tasks in respect of each learning outcome. Exam papers are assessed along the fulfilment of the learning outcomes at four grades: fail, pass, merit and distinction. Students who fail the exam may retake it in the next exam period set by the college.

(Find the „e” sign in the curriculum)

**Presentations and case studies**

At practice-based courses students are required to prepare presentations of case studies along the models and examples studied during the course. Assessment is based on the quality of the content and delivery of the presentation, in terms of its accuracy and compliance to the prevailing academic discourse in the specific field.

(Find the „p” sign in the curriculum)

**Curriculum of the Environment and Catastrophy Management MSc programme**

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| **Economics, business and methodological knowledge**  |
| course name | year I | year II |
| sem 1 | sem 2 | sem 3 |
| hours | cr | ex | hours | cr | ex | hours | cr | ex |
| th | pr |  |  | th | pr |  |  | th | pr |  |  |
| Economics |  |  |  |  | **3**  | **0**  | **3**  | **a**  |  |  |  |  |
| Ethics in Business | **2**  | **2**  | **3**  | **a**  |  |  |  |  |  |  |  |  |
| Business Law | **2** | **0**  | **3**  | **e**  |  |  |  |  |  |  |  |  |
| Business Model |  |  |  |  | **2**  | **2**  | **3**  | **e**  |  |  |  |  |
| Corporate Management |  |  |  |  |  |  |  |  | **0** | **1**  | **3**  | **a**  |
| Issue Management |  |  |  |  | **0** | **2**  | **3**  | **a**  |  |  |  |  |
| Cashflow |  |  |  |  |  |  |  |  | **2**  | **1**  | **3**  | **a**  |
| Sales | **2**  | **1**  | **3**  | **a**  |  |  |  |  |  |  |  |  |
| Political Economy |  |  |  |  | **2**  | **0**  | **3**  | **a**  |  |  |  |  |
| Geopolitics |  |  |  |  |  |  |  |  | **2**  | **0**  | **3**  | **a**  |
| **Summary** | **6**  | **3**  | **9**  |  | **7**  | **4**  | **12**  |  | **4**  | **2**  | **9**  |  |

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| **SPECIALISATIONS** |
| **Environment and Catastrophy Management – Foundation courses** |
| course name | year I | year II |
| sem 1 | sem 2 | sem 3 |
| hours | cr | ex | hours | cr | ex | hours | cr | ex |
| th | pr | th | pr | th | pr |
| Foundation course for Catastrophy Management | 3 | 0 | 3 | a |   |   |   |   |   |   |   |   |
| Civil emergency organizations | 3 | 1 | 3 | a |   |   |   |   |   |   |   |   |
| Preventive protection measures  |   |  |  |  | 2 | 0 | 3  |  a |  |   |   |   |
| Environmental risk assessment |  |  |  |  |  |  |  |  | 2 | 0 | 3  |  a |
| Catastrophy management  |   |   |   |   | 3 | 0 | 3 | a |  |  |  |  |
| Environmental Processes 1. | 2 | 0 | 3 | a |  |  |  |  |  |  |  |  |
| Environmental Processes 2. |  |  |  |  | 2 | 0 | 3 | a |  |  |  |  |
| Waste Management |  |  |  |  |  |  |  |  | 0 | 4 | 3 | p |
| Water Management | 2 | 1 | 3 | p |  |  |  |  |  |  |  |  |
| Environment Protection |  |  |  |  |  |  |  |  | 2 | 0 | 3 | a |
| **Summary** | **10** | **2** | **12** |  | **7** | **0** | **9** |  | **4** | **4** | **9** |  |
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| **Environment and Catastrophy Management – Advanced courses** |
| course name | year I | year II |
| sem 1 | sem 2 | sem 3 |
| hours | cr | ex | hours | cr | ex | hours | cr | ex |
| th | pr | th | pr | th | pr |
| Ecoengineering | 3 | 0 | 5 | a |   |   |   |   |   |   |   |   |
| Drinking Water Management | 3 | 1 | 5 | a |   |   |   |   |   |   |   |   |
| Applied Meteorology |   |  |  |  | 4 | 0 | 5  |  a |  |   |   |   |
| Urban Ecology |  |  |  |  |  |  |  |  | 4 | 0 | 5  |  a |
| Green solutions and policies |   |   |   |   | 3 | 0 | 5 | a |  |  |  |  |
| Nuclear energy |  |  |  |  |  |  |  |  | 3 | 0 | 5 | a |
| **Summary** | **6** | **1** | **10** |  | **7** | **0** | **10** |  | **7** | **0** | **10** |  |

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**Course descriptions**

**ECONOMICS, BUSINESS AND METHODOLOGICAL KNOWLEDGES**

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| **Name of the Unit: Economics** | **Credit value: 3** |
| **Type of unit, number of hours:** 3 theory 0 practice |
| **Assessment:** assignment |
| **Course curriculum location:** semester 2 |
| **Course description** |
| **1.** **The purpose of teaching the subject**To enhance student’ knowledge of the economic environment and its impact on business organizations. **2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. Following the systematic explanation and assessment of the theoretical foundation, the economic environment of a selected business organization or sector must also be analysed accordingly.**3. Course content**1. micro-economics

 * Defining and applying terms of supply and demand and their flexibility, pricing, marginal revenue, factors affecting production and produced quantity
* Corporate objectives: profit-related and further objectives, strategic governance, corporate and product life cycle; types of organizations and their respective objectives
* Market strctures and respective legislation: monopoly, monopolistic competition, perfect competition
1. macro-economics
* Defining and measuring macroeconomics, collecting and analysing trustworthy economic data, international comparison, inflation, deflation adnd their impacts on the corporate environment
* Government measures and their impact: monetary and fiscal policy, taxation, government expenditure, interest rates, unemployment rate, balance of payment, economic growth
* Market research, competitors, customer surveys, observing, forecasting and analysing trends of customer behaviour and social changes
1. international business environment
* Multinational companies and international organizations, multinational and global operations, international trade and partnerships, exchange rates, free trade vs. protectionism, trading blocks and trade agreements
* Authority and impact of international organizations, e.g. World Trade Organizations, World Bank, International Monetary Fund
* Global sustainable strategies, interface and cooperation of different economic systems, interdependence of emerging and developed markets
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| **Name of the Unit: Ethics in Business** | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 2 practice |
| **Assessment:** assignment |
| **Course curriculum location:** semester 1 |
| **Course description** |
| **1.** **The purpose of teaching the subject**To introduce students to the concept of values, morality, as well as cultural beliefs and approaches in all areas of business, from consumer rights, through strategic business decisions to corporate social responsibility. **2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. Following the systematic explanation and assessment of the theoretical foundation, the ethical considerations and market behaviour of a selected business organization or sector must also be analysed accordingly.**3. Course content**1. corporate social responsibility

 * Roots and emergence of the concept of corporate social responsibility, the role of emerging markets
* Interdependence of people, planet and profit, definition and segments of coporate social responsibility, impact of social activities on customers, local community and further stakeholders
* Case studies – analysis ot CSR activities, their benefits and limitations, measuring the impact of these activities
1. corporate compliance
* Strategic areas of compliance; legal, quality, environmental and trade issues, benchmarking, benefits and cost of compliance
* Observing and meeting these requirements, monitoring; implications of non-compliance in the diverse areas
* The role of media, social media and public relations in meeting or failing to meet ethical or legal requirements - Case studies
* International operations – ethical considerations in poorly codified legal environments, supply chain management, intercultural communication and approach in business
1. consumer rights
* Laws governing consumer rights in the European Union and in selected countries, case studies
* Defining consumer rights and identifying areas of relevance – case studies
* Role of promotion and public relations in preventing issues and complaints
* Approaches, techniques and strategies of managing complaints at the corporate, sectorial and national level – case studies
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| **Name of the Unit: Business Law** | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 0 practice |
| **The method of reckoning:** exam |
| **Course curriculum location:** semester 1 |
| **Course description** |
| **1.** **The purpose of teaching the subject**To enhance student’ knowledge of the legal environment of the business with a focus on European legislations and through case studies on selected localities.**2. Assessment**In the form of an exam, students must prove their comprehensive knowledge of the course content. Exam questions systematically cover the key areas of business legislation, requesting the presentation of examples of practical considerations. **3. Course content**1. Basic terms

 * Introduction, definition and objectives of law, sources of legislation, Civil versus criminal law, Ethics
* Government regulation of business, purpose of regulation, antitrust, environmental protection
* Contracts – nature and classification, definition of contracts, Express and implied, Valid, void and voidable, Executory and executed, Unilateral and bilateral, Quasi contract
* Offer and acceptance - Requirements of a valid offer, the offer, Parties - offeror – offeree, essential elements of a valid offer, invitations to make offers, duration of an offer, The acceptance, Counteroffers, Inquiries not constituting rejection, Manner of acceptance
* Defective agreements: mistakes, render agreement defective, not affecting the validity of the agreement, Fraud: definition, expressing misrepresentation, concealment of material facts, silence when it is one's duty to speak, duress, undue influence, remedies
1. The structure of court systems
* Functions, Jurisdiction and classification of courts, court officers, procedures in courts of records
* The European court system, structure, authority and effective operation
1. laws, conditions and regulations in national and international work environments
* Capacity to contract: minors, insane persons, intoxicated person, convicts
* Consideration: definition, nature of consideration, adequacy of consideration, insufficient or invalid consideration, promise to perform existing obligations, forbearance, past performance, exceptions to requirement of consideration
* Illegal agreements: gambling contracts, usurious contracts, contracts of unlicensed operator, contracts for the sale of articles that cannot be the subject matter of an ordinary sale, contracts in unreasonable restraint of trade, contracts contrary to public policy
* The written contract: statute of frauds, note or memorandum, parole evidence role
* Third parties and contracts: third party beneficiary, novation, assignment, delegation, technicalities of an assignment, form of assignment, effect of an assignment, warranties of the assignor, joint, several, and joint and several contracts
* Termination of contract: performance, discharge by operation of law, voluntary agreement of parties, impossibility of performance, acceptance of breach of contract, remedies for breach of contract, malpractice
* Consumer protection: traditional protection, usury laws, antitrust laws, regulatory agencies, expansion of consumer protection, product safety, disclosure and uniformity, truth in advertising, truth in lending, product uniformity, statutes prohibiting unconscionable contracts, warranty protection, fair credit reporting, state consumer protection agencies
* Nature of personal property: personal property, methods of acquiring personal property, bailments, the bailment agreement, delivery and acceptance
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| **Name of the Unit: Business Model** | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 2 practice |
| **The method of reckoning:** exam |
| **Course curriculum location:** semester 2 |
| **Course description** |
| **1.** **The purpose of teaching the subject**To explore and develop business models that encompass an innovative product or service, the customers and the economic environment that will enable business organizations to meet their profitability and growth objectives. Business model analysis is specially important for startups, new and established businesses which need to discover, defend or evolve their business**2. Assessment**In the form of an exam, students must prove their comprehensive knowledge of the course content. Exam questions will focus on practical examples of business models and the need to present their feasibility. **3. Course content**1. Business models
* Definition and structure of business models using recent case studies, characteristics ad analysis of a few common types of business models, value creation model, profit model, and logic of the business. Case studies
* The extended concept of the business model, customer acquisition through viral marketing and the "freemium" revenue model.
* Emergence of business models, the importance of business models and business model innovation to value creation in 21st Century businesses
1. Network Effects
* The concept of network effects underlying the logic of many technology-based business models in technology markets. Application of the concept and its ramifications for adoption
* Partnerships required for and generated by business models, modifying existing business models as a method of differentiating the business
1. Presenting Business Models
* Preparing and presenting a business model designed by students. Fundamental and desirable components and structures of a business model, establishing the model through environment analysis and modeling
* Testing certain aspects of the business model before widespread roll out
* Developing new business models as a method of create competitve advantage
* Limitations of the models taking into consideration the size of the market and of the venture, the features of the target market, product life cycle and the available resources
1. critical evaluation of Business Models
* Delivering presentations on business models, raising attention and stakeholder interest
* Reflecting on new business models, providing critical and justified contributions to peers
* Accepting and analyzing feedback, embedding it into the design
* Review and adjustment of business models based on feedback or environmental changes.
* Sustainability in business strategies
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| **Name of the Unit: Corporate Management** | **Credit value: 3** |
| **Type of unit, number of hours:** 0 theory 1 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 3 |
| **Course description** |
| **1.** **The purpose of teaching the subject**To enable students to understand and apply different management strategies, to identif the role and functions of corporate management and the indvidual, team-based, departmental and corporate skills required in this regard.**2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. Following the systematic explanation and assessment of the theoretical foundation, different management strategies and their applications must also be analysed accordingly.**3. Course content**1. Strategic management
* Definition and functions of strategic management, roles and functions and managers and leaders; differences in sectors and sizes of businesses
* Review of management theories with a focus on their primary field of application: process theories, functional leadership, transactional and situational theories
* Review of management styles: autocratic, bureaucratic, lasses-faire, persuasive, democratic, charismatic
1. Motivation
* The importance and impact of motivation on employees, team performance and corporate objectives, leadership skills and knowledge required for efficient motivation
* Motivation theories of behaviourism, social constructivism and power, practical aspects of motivation, incentives and further remuneration-related elements
* Performance management: clarity of end results and goal setting, agreement with staff, reward, performance monitoring and measurement, gathering feedback, use of data and outputs, job design and characteristics and employee needs
* Integrated performance appraisal systems
1. Team management
* Development of teams: stages of team development along with their characteristics and challenges
* High performance teams: shared purpose and established goals, clear roles, strong interdependencies; agreed decision making process, use of review and feedback, stable team membership, strong learning environment, team based rewards system
* Team leadership: roles and models of team leadership, establishing the culture of team performance, giving direction, establishing reporting lines, celebrating success, managing conflict, communications, collaboration and team decision making, creativity of teams; monitoring performance and measuring team success
* Impact on organisational performance: utilising skills of individual members, shared goals and ambitions, working with and supporting colleagues, wanting success for the team, common understanding of the plan and its impact on the organisation; individual performance of a team member and impact on the work of others
* Underperforming teams and negative impact on organisational performance, goals not achieved, blame culture; conflict; staff absence, retention
* Virtual teams: Working with real time; common message and communication; lack of clarity and direction and second guessing; lack of empathy and personal connection; different work ethic and culture in team members; hidden incompetence; diminished productivity; availability.
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| **Name of the Unit: Issue Management** | **Credit value: 3** |
| **Type of unit, number of hours:** 0 theory 2 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 2 |
| **Course description** |
| **1.** **The purpose of teaching the subject**Globalisation has increased interest and attention for the environment and public image of businesses. Issue management has become an essential management skill across all sectors. The aim of this course is to introduce the students to the principles, ethics and strategies of risk, crisis and issue management. **2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. Following the systematic explanation and assessment of the theoretical foundation, different risk, crisis and issue management strategies and their applications must also be analysed through business case studies.**3. Course content**1. The effects of risks on business organisations
* Risk assessment: analysis, identification, description, estimation, control measures and evaluation, review
* Risk management frameworks: ERM programmes, ISO 3001, corporate governance/compliance, actuarial approaches, insurance, legal issues
* Classification: Strategic risks (e.g. competition, changes in society or markets), financial risks (e.g. liquidity, foreign exchange, credit risk), operational risks (e.g. product failure), hazard risks (e.g. natural Disasters), information risks (e.g. computer hacking).
* Operations: Identifying risks in business operations, high risk areas: data, systems integrity, reputation, financial theft, health and safety, risks varying between organisations in different sectors e.g. primary – importance of mitigating risks associated with health and safety
* Risk management strategies: employment practices, fraud prevention measures, health and safety policy, protection of physical assets and business continuity, process and product management, benchmarking, disaster management
1. Risk management function in organisations

 * Business risk, Internal and external risks i.e. events taking place within the organisation; risks outside the control of the organisation
* Role of risk management: review of activities and internal environment, setting objectives, risk assessment (impact and likelihood), risk response plans and control, monitoring
* Functions that have a role in managing risk: strategic planning, marketing, compliance operations, legal and accounting, insurance, treasury/accounting, management and quality assurance, internal audit, health and safety, environmental
* Risk management process: risk assessment, risk reporting, decisions, risk treatment, residual risk reporting, monitoring – ongoing and formal audit, modification
1. Approaches to crisis management and business continuity planning
* Vulnerability: Factors – size of business, operating environment, physical environment etc.; Impacts – loss of profits, loss of assets, inability to trade,
* Approaches - Business continuity planning, impact assessment, threat assessment, scenario definition, recovery solution design (including customer / stakeholder management), implementation and communication, testing
* Risk management strategies: Employment practices, fraud prevention measures, health and safety policy, protection of physical assets and business continuity, process and product management, benchmarking, disaster management
1. risk management plan
* Potential risks: Uncertainty in profits e.g. legal issues, market trends, stock market fluctuations, increase in production costs, changing trends and fashions, inadequate forecasting; Danger of loss e.g. natural disasters such as floods and earthquakes, technology failures, physical factors such as machine failure, fire, theft; personnel issues such as strikes, talent management; Events e.g. political factors such as change of government, compliance and regulations, global incidences, security breaches
* Business impact analysis: Analysing level of risk (consequence x likelihood), rating risks e.g. severe, high, moderate, low
* Risk management plan: prevention, preparedness, response, recovery
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| **Name of the Unit: Cashflow** | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 1 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 3 |
| **Course description** |
| **1.** **The purpose of teaching the subject**To explain the critical role cash plays in determining eventual success or failure of a business model. The course will enable students to define the contact points of business and the cash cycle, integrating the business process flow with cash flow and accentuate the critical success factors which will help organisations perform better with a limited cash resource.**2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. Following the systematic explanation and assessment of the theoretical foundation, a sound and well-established cashflow and a respective analysis must be prepared.**3. Course content**1. definition, concept and use of cashflow
* Role of the cash flow, Cash and profit – striking a balance between cash, payments and profits, Cash flow cycle – Receipt Cycle and Disbursement Cycle, Float management, Linking balance sheet, profit and loss, and cash
* Cash flow statements, Fund flow statements, Preparing cash flow statements, Cash from operating, investing and financing activities, Cash flow forecasts and cash budgets, Master budgets and cash flow, Optimal cash holding, Liquidity analysis
* Cash-focused performance analysis, Financing cash flow, Short-term financing alternatives, Foreign exchange markets
1. Factors affecting the Preparation of the cashflow

 * Business Costs: Fixed costs, Indirect costs, Direct costs, Semi-variable costs, Stepped costs, Total costs, Unit costs, Marginal costs.
* Pricing Methods: Cost-plus pricing, Discounting, Competitive pricing.
* Break-even analysis including: Break-even formulae, Contribution per unit, Total contribution, Margin of safety, Contribution to sales ratio, Profit / loss, Break-even charts, Contribution / Sales (profit/volume) charts.
* Budgeting: Types of budgets, Purposes of budgeting, Preparation and revision of budgets, Calculation of variances, Analysis and evaluation of variance results.
1. Cash flow cycles
* Accelerating cash inflows, delaying cash outflows until they come due
* Investing surplus cash to earn a rate of return.
* Borrowing cash at the best possible terms.
* Maintaining an optimal level of cash that is neither excessive nor deficient.
* Transaction amounts and compensating balances
* Precautionary Amounts and Speculative Amounts
* Financial Amounts
1. Cash Flow planning
* Case studies and their evaluation
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| **Name of the Unit: Sales** | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 1 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 1 |
| **Course description** |
| **1.** **The purpose of teaching the subject**To provide learners with knowledge and understanding of sales and the principles and practices of professional selling in the business environment. **2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. Following the systematic explanation and assessment of sales models and techniques, a well-established sales strategy must be devised for a new service or product.**3. Course content**1. principles of selling and different selling methods
* Definitions: the term ‘sales’ and the importance of a sales policy in an organisation; definition of the term ‘sales’, purpose and objectives of sales, sale transaction, sales pipeline, sales cycle, the role of sales in marketing; definition and purpose of a sales policy
* Sales function and the role of selling within the marketing mix: elements of sales function: order-takers, order-creators and order-getters; sales strategy framework, 7 ‘P’s of marketing (product, price, place, promotion, people, process, physical evidence), push and pull sales strategies, channels of distribution
* Differences between marketing, negotiating and selling: Negotiation strategy, tactics and behaviour; levels of power and authority, and the impact on negotiation; integrated marketing communications (IMC), value-added selling
* Characteristics of different methods of selling: Professional selling, personal selling, transaction vs relationship selling, stimulus response approach to selling, mental states selling, need satisfaction selling, problem-solving selling, consultative selling, adaptive selling
1. principles of of the sales process
* Characteristics of the sales process: steps in selling process (selling cycle) and their characteristics; sales analysis and plan, SMART objectives
* The steps in customer-buying process: influences on buying behaviour; Kotler’s five-stage buying decision process
* Differences and similarities between sales in a business-to-business and business-to-consumer context: types of customers, market structure and demand, business-to-business (organisational) buying process, business-to-consumer buying process.
1. The importance of sales technologies for organisations
* Utilisation of new technologies and their impact on the performance of organisations: sales channel strategy; organisational influences on technology acceptance and usage; Davis's Technology Acceptance Model (TAM); impact of new technologies on productivity and performance effectives
* Benefits and downfalls of different sales technologies to drive sales: sales force automation, Internet selling, social media, networking
* Differences between online and offline selling: e-commerce vs. retail, Customer Experience Management (CEM), Customer Relationship Management (CRM), benefits and downfalls
1. The financial dimensions of sales
* Financial principles and the role of portfolio management: increasing, diminishing and negative marginal returns; product portfolio management
* Purpose of the sales budget and differences between top-down and bottom-up forecasting approaches: elements of sales budget and role in performance effectiveness of the salesforce; planning, coordination and control; types of sales forecast, sales forecasting methods, top-down forecasting approach, bottom-up forecasting approach.
* Role of sales variance in performance management: sales performance measurements, sales margin price variance and sales margin volume variance.
1. Understand sales structures in organisations
* Different concepts of sales organisation structures: objectives of sales organisation structure, sales organisation structures; geographic, product, market, functional, salesforce deployment; allocating selling effort, determining salesforce size, designing territories; sales organisation audit.
* Benefits of account management within sales structures: purpose of account management, managing accounts, Customer Relationship Management (CRM)
* Elements of sales force deployment: alignment of sales force deployment and sales strategy, sales force specialisation, sales territories
* Different ways of managing organisation’s sales force and the function of a sales manager: sales force motivation objectives, motivational factors, Maslow hierarchy of needs, McClelland's Theory of Needs, Equity Theory, Expectancy Theory, demotivators. Sales manager responsibilities inside and outside the company, levels of authority, people’s skills, performance review and feedback.
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| **Name of the Unit: Political Economy** | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 2 |
| **Course description** |
| **1.** **The purpose of teaching the subject**The subject has dual objectives: to familiarize students with the theoretical frameworks, and contents of Political Economy and to inform students about the market-economical tools, current arguements, and results of Political Economic management.**2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. The assignment must be structured around the systematic analysis of a selected country.**3. Course contents:**1. Introduction, historical hindsight and basic concepts
* The definition and tools of Political Economy. The bases of macroeconomical legislation of market-economy
* History of selected political economies: the Political Economical features of market socialism, and the transformation between the requirements and contradictions of Political Economy
* The border between the present and the future: the Political Economical challenges of the European Union membership: learning and/or adapting
1. Special operation of the political economy
* The most important areas and tools of Political Economy: fiscal and monetary policies, tax systems and the sectoral components of the economy, and the possible tools (price and wage, incoms and their usage) of Political Economy.
* The current problems of the Political Economical choices based on the students’ concrete interests and questions.
* Case studies – joint analysis of selected economies.
1. The Economics of trade
* Theoretichal aspects regarding the international integration process with a focus on European trade.
* The origin and the evolution of European Union. Specific integrational stages of European history. On the way to the Single Market
* General aspects regarding the European governance. European institutions, current issues regarding the European politics
* Enlargement of the European Union, trade relationships
* Export and import within the European Union, spillover effects of enhanced political and economical relations.
* Competition in the global market, European Union as a united player on the market
1. The Role of trade in Economics
* The place, role and importance of commerce inside the economy, the implications of market mechanism in trade activity, goods and services Market
* Consumption, its structure and economic laws, goods demand, goods offer, the Prices in Commerce
* Tipological approach in wholesale trade activity, tipological approach in retail activity, trade services, organisation systems for the trade apparel
* The microeconomic approach of trading economy science – fundaments of trading companies
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| **Name of the Unit: Geopolitics** | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 3 |
| **Course description** |
| **1.** **The purpose of teaching the subject**Studying the geographical-spatial, and environmental circumstances and impacts of the economy, political processes, and international relations. Analysing the elements and relationships of the Geopolitics and neighbour policy in the purpose of the perspective development and increase of the country.**2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. The assignment must be structured around the systematic analysis of a selected country.**3. Course contents:**1. Introduction
* Concept and elements of geopolitics, strengths and weaknesses of thinking about the world in geopolitical terms
* Different ages of geopolitics: features of the historical periods before and after the World Wars, Cold War, new age
* Critical geopolitics – objectivity of facts, politicization
1. Power relations
* Great Powers - assumptions and facts about power relationships, different interpretations, balance of power, multipolarity, unipolarity
* The structure of the current international system – impacts of the Cold War, the rise of new Great Powers, the rise of new regional powers and the regionalization of world politics
* Transformation of world politics
1. Strategies for foreign policies
* Strategies formulated in policy documents and the behaviour of the Great Powers, analysis of realization of foreign policies
* National interest – objectivity and elasticity of the national interest, examples of manifestation, possible impacts of the specific government in power
* Interpretation of the role of states as unitary actors or as influenced by domestic and transnational interests
* Foreign policy behaviour of the Great Powers, freedom of action in implementing grand strategies
1. Global strategies
* Recurring factors that have historically exerted the greatest influence on the behaviour of great powers, the importance of a long-term view of history in understanding current developments in world politics,
* Differences and similarities of global strategies of the Great Powers, the significance of a world-historical perspective for strategic studies
* The major elements of a World Historical analysis of grand strategy in the 21st century
* Globalization versus a world of Great Powers, the status of Great Powers and their determining factors: economic might, military capabilities, and global relationships
* Increasingly scarce natural resources and global environmental threats
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**SPECIALISATION ON ENVIRONMENT AND CATASTROPHY MANAGEMENT**

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| **Name of the Unit: Foundation Course for Catastrophy Management** | **Credit value: 3** |
| **Type of unit, number of hours:** 3 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 1 |
| **Course description** |
| **1.** **The purpose of teaching the subject**To provide students with a thorough grounding in disaster management theory and its application to real world problems. Students can engage in a wide-ranging interdisciplinary analysis of the extent, effects and explanations of crisis and disaster, and the use of risk theory.**2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. The assignment must be structured around the systematic analysis of different disaster scenarios (roots, events, outcome and possible solutions).**2. Course contents:**1. Theoretical approaches to risk, crisis and catastrophy
* Theoretical approaches to risk and crisis, systems ideas and risk, isomorphic learning
* Health and safety management, The assessment and management of organisational risks, safety culture
1. Practical examples of disasters
* Analysis of case studies from selected fields and regions
1. Analysis of capabilities and hazards
* Review of existing internal policies and plans, meeting external groups, identifying Codes and Regulations, identifying critical operations and internal and external resources and capabilities, conducting an Insurance review and a vulnerability analysis
* Potential Emergencies - identification and estimating their probability, assessing the potential human, property and business impact along with the internal and external resources
1. Disaster management plan
* Plan Components: Executive Summary, Emergency Management Elements, Emergency Response Procedures, Support Documents
* The Development Process: identifying challenges and prioritizing activities, establishing a training schedule, continuing coordination with external organizations, maintaining contact with other corporate offices, Review, Conduct Training and Revise, Final Approval, distribution
* Implementation: integrating the Plan into Company Operations, conducting training, planning considerations, Training Activities, Employee Training, evaluating and Modifying the Plan
1. Emergency management considerations
* Direction and Control: Emergency Management Group (EMG), Incident Command System (ICS), Emergency Operations Center (EOC), Planning Considerations, Security, Coordination of Outside Response
* Communications: Contingency Planning, Emergency Communications, Family Communications, Notification, Warning
* Life Safety: Evacuation Planning, Evacuation Routes and Exits, Assembly Areas and Accountability, Shelter, Training and Information, Family Preparedness
* Property Protection: Planning Considerations, Protection Systems, Mitigation, Facility Shutdown, Records Preservation
* Community Outreach: Involving the Community, Mutual Aid Agreements, Community Service, Public Information, Media Relations
* Recovery and Restoration: Planning Considerations, Continuity of Management, Insurance, Employee Support, Resuming Operations, Administration and Logistics
* Administrative Actions and Logistics
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| **Name of the Unit: Civil Emergency Organizations** | **Credit value: 3** |
| **Type of unit, number of hours:** 3 theory 1 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 1 |
| **Course description** |
| **1.** **The purpose of teaching the subject**To provide students with an introduction to the operation of civil emergency organizations and their links to other organizations. Students also learn about the measures to be taken against environmental problems and natural disasters. Following the comprehension of the mechanisms of air, water and land, the students develop a comprehensive perspective on preventing and managing environmental disasters. Man-made disasters are also included in the course.**2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. The assignment must be structured around the systematic comparative analysis of two selected civil emergency organizations.**2. Course contents:*** Types of emergency-related organizations
* Cooperation among non-governmental and inter-governmental civil organizations
* Emergency response planning
* The role of local, sub-national and national organizations in emergency response
* Case studies
* Identification and analysis of potential environmental disasters
* The impact of urban planning and globalization
* Tourist destinations and their involvement in prevention
* Detecting natural disasters
* Restoration strategies
* Types of non-natural catastrophies
* The functions and inter-relation of organizations involved in catastrophy management
* Process of identifying, assessing and resolving emergencies
* Reporting protocol
* Risk assessment and analysis
* Case studies (causes and management): Earthquakes, Tsunamis, Floods
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| **Name of the Unit: Preventive Protection Measures**  | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 2 |
| **Course description** |
| 1. **The purpose of teaching the subject**

Student gain a comprehensive knowledge of Preventive Conservation that is the mitigation of deterioration and damage to cultural property through the formulation and implementation of policies and procedures. **2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. The assignment must provide an analysis of a certain environmental field with detailed respect to the preventive protection measures required there.**2. Course contents:*** Policies and procedures for appropriate environmental conditions; handling and maintenance procedures for storage, exhibition, packing, transport, and use; integrated pest management; emergency preparedness and response; and reformatting/duplication, preventive conservation as an ongoing process that continues throughout the life of cultural property, and does not end with interventive treatment
* Extending the life of cultural property, reducing the risk of catastrophic loss of cultural property, defering, reducing, or eliminateingthe need for interventive treatment, extending the effectiveness of interventive treatment, providing a cost-effective method for the preservation of collections
* Maximizing impact of the conservation professional, encouraging the conservation professional to employ the broadest range of preservation strategies (e.g., risk management, long-range planning, site protection)
* Conserving professional to collaborate with others who have responsibility for the care of collections and cultural property (e.g., security and fire prevention personnel, facilities or site managers, collections managers, maintenance staffs)
* Stakeholder engagement in the preservation of cultural property, impact of tourism and impact on tourism
* The risk management approach to conservation of collectionsm not only as the management of rare catastrophes, but also as the management of slow continual hazards and everything between, being an integrated view of all expected damages and losses to collections.
* The concept of risk management concept and its various current interpretations and applications in the field of cultural heritage, risk assessment survey for collections in museums.
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| **Name of the Unit: Environmental Risk Assessment** | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 3 |
| **Course description** |
| 1. **The purpose of teaching the subject**

Students gain advanced knowledge in the field of risk assessment and prediction of environmental probelsm, and master the basic methods of forecasting and risk assessment of the environment. The course should enable students to plan and implement simplified procedures of risk assessment and critically assess the significance of the obtained outcomes given the importance and limitations of risk assessment.**2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. The assignment should provide an detailed risk assessment of a selected environmental region.1. **Course contents**
* Logic and expression of risk assessment, including human risk assessment (hazard identification, exposure assessment, dose-response assessment and risk characterization
* Ecological risk assessment: problem formulation, characterization and environmental effects of exposure and risk characterization
* Methods for the prediction and assessment of the risks to the environment, including the following topics: global distribution of contaminants, bioaccumulation and bioconcentration in aquatic organisms, structure activity relationships for predicting ecological effects of chemicals, predictive ecotoxicology, population modelling, environmental risk assessment - current USEPA recommendations and future directions
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| **Name of the Unit: Catastrophy Management**  | **Credit value: 3** |
| **Type of unit, number of hours:** 3 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 2 |
| **Course description** |
| 1. **The purpose of teaching the subject**

Catastrophy management studies are considered as a trans-disciplinary field that draws on theoretical perspectives from a variety of academic disciplines along with proven data of disaster management. The course covers cases of natural hazards as well as a broad range of human-induced disasters, complex emergencies and crises. The course also provides an insight into the operational management of natural and man-induced catastrophies through case studies, focusing on the poor and marginalized regions and the disproportionate impact of disasters endured by them in the developing world. The study of disaster risk reduction, disaster response and post-disaster recovery is aligned social reponsiblity. **2. Assessment**In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. The assignment must provide an analysis of the catastrophy management of a selected country.**3. Course contents:*** Key concepts in disaster risk reduction and humanitarian response
* Theory and practice of catastrophy management strategies
* Strengths and weaknesses of different disaster management approaches
* Catastrophy risk deduction strategies
* Provision of effective, humanitarian and sustainable responses
* Standards of humanitarian response policies
* Pre- disaster preparedness and mitigation
* Rescue and relief in the context of disaster
* Post disaster rehabilitation, reconstruction and recovery
* Disaster risk reduction initiatives
* Sustainable humanitarian catastrophy management
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| **Name of the Unit: Environmental Processes 1.**  | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 1 |
| **Course description** |
| 1. **The purpose of teaching the subject**

To enable students to understand the principles of setting up models for the selected processes in the environment and apply simple models for monitoring, forecasting, and management processes in the environment. Students upgrade their knowledge about modelling of near surface flow, transport of moisture, heat and momentum inside vegetation. Students get informed about local and nonlocal convective mixing and aggregation of parameters in surface schemes above nonhomogeneous surfaces.1. **Assessment**

In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. The assignment must provide an analysis of the environmental processes of a selected country or region. 1. **Course contents:**
* Description the purpose, types of models and modelling principles in environmental protection
* Application of simple models (e.g. modelling of adsorption of pollutant transport through porous media), Solving problems related to the definition of the transport of pollutants in the environment
* Creating diagrams and conceptual OPSIS equations for the movement and transformation of pollutants in the environment, description and demonstration the use of commercial software for risk assessment
* Modelling of the transport of moisture, heat, and momentum within the vegetation by using “K theory”. Equation for the wind profile within vegetation. Direct and indirect way for calculation of the coefficient of turbulent transport within vegetation. Pаrаmetrizаtion of short wavelength and long wavelength within vegetation.
* Modelling of the turbulence, schemes having prognostic equations for the second order moments, dimensional analysis of the equations for the second order moments, properties and modelling of the motion in the close vicinity of the ground. Local schemes, trаnsilient theory
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| **Name of the Unit: Environmental Processes 2.**  | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 2 |
| **Course description** |
| 1. **The purpose of teaching the subject**

To provide students with aultidisciplinary approach in environmental and ecological monitoring (goals, planning, selection of appropriate battery of methods and parameters, reference conditions, sampling, representative sample, temporal and spatial dynamics in sampling, field measurements and observations, laboratory analysis, bioindicators). Students also learn to apply various conventional and new process materials in technology for environmental protection.1. **Assessment**

In the form of a written assignment, students must prove their comprehensive knowledge of the entire course content. The assignment must provide an analysis of the environmental material processes of a selected country or region. 1. **Course contents:**
* Ecological status assessment of various types of waterbodies as stipulated by WFD: hydromorphological, physico-chemical, priority pollutants, biological quality elements.
* Air quality monitoring: emission, ambient air monitoring, biomonitoring, national and EU regulations. Soil quality monitoring: physico-chemical and biological methods, soil erosion and fertility, national and EU regulations.
* Practical part: Hydromorphological quality elements in different types of water bodies, Physico-chemical quality elements and priority pollutants. Biomonitoring – biological quality elements.
* Application of ecotoxicological methods in biomonitoring. Methods in air quality assessment: emission and ambient air quality parameters, Methods for soil quality assessment
* The application of natural, modified and artificial materials. Hard materials: quartz sand, activated carbon, clays, zeolites, metal oxides (oxides of iron and ferruginous sand, manganese oxide, aluminium oxide), ion exchange resins, membranes. Liquid reagents: electrolytes, polyelectrolytes, oxidizing agents (potassium permanganate, hydrogen peroxide), acids and bases, gaseous reactants: ozone, chlorine, chlorine dioxide, chloramines, enzymes
* Production technology and application of materials for the protection of the environment
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| **Name of the Unit: Waste Management**  | **Credit value: 3** |
| **Type of unit, number of hours:** 0 theory 4 practice |
| **The method of reckoning:** presentation |
| **Course curriculum location:** semester 2 |
| **Course description** |
| 1. **The purpose of teaching the subject**

To provide students with extensive knowledge of integrated waste management and improve their knowledge of resources, energy saving and environmental protection by applying the best available techniques. Students also gain the necessary knowledge and skills in designing problematic processes in wastewater treatment plants for the purification of waste water.1. **Assessment**

In the form of a presentation, students must prove their comprehensive knowledge of the entire course content. They must critically present the waste management system and strategy of a selected location.1. **Course contents:**
* Concept and types of waste, definition and classification, Methods of waste management and waste treatment technologies, Evaluation of waste as a resource, waste and sustainable development. Integrated waste management. Waste treatments that are environmentally friendly and the disposal of waste in well-engineered landfills, the legal framework on waste management: national regulations, local government regulations and legislation on waste. Preparation of the management plan.
* Origin of waste water. Characterization of wastewater. Emission standards for waste water. Analysis and selection of wastewater flows and loading elements. The choice of units in wastewater treatment, alternative processing lines (technology) for wastewater treatment.
* The conceptual design process and treatment plants for waste water treatment. The design phase of wastewater treatment: mechanical methods of treatment, the chemical purification process, biological treatment (processes with suspended microflora; processes with immobilized microflora; anaerobic processes); streamlined treatment processes, disinfection. The waste streams from wastewater treatment, their treatment and disposal. Aspects of plant operation (control and management; odour control, energy efficiency).
* Industrial waste: Determination of particulate matter content and concentrations of gaseous pollutants. Systems control for odour in industry. Control of emissions of polluting particulate matter and gaseous pollutants.
* Purification of industrial waste gas and waste water problems: thermal power, metallurgy, chemical and pharmaceutical industries.
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| **Name of the Unit: Water Management**  | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 1 practice |
| **The method of reckoning:** presentation |
| **Course curriculum location:** semester 1 |
| **Course description** |
| 1. **The purpose of teaching the subject**

To train students about water quality, water monitoring, water pollution control, integrated water management. The course will cover the management of water in the river basin, explain the importance and methodology of emission limit values for water, apply the methodology to determine the status of surface water and groundwater, use cadastre of polluters and plants for waste water treatment in water management.1. **Assessment**

In the form of an assignment, students must prove their comprehensive knowledge of the entire course content. They must critically present the water management system and strategy of a selected location.1. **Course contents:**
* Valuation of water as a resource. Water and sustainable development. Integrated water management: water quality protection, water quality management and control of water pollution.
* Water quality management in light of the statutory provisions. Emission limits values for water.
* The catchment area as the basic unit for water management. Development plans for river basin management. The methodology for determining the status of surface waters. The methodology for determining the status of groundwater. Protected water areas. Priority pollutants. Monitoring catchment areas. Application of GIS for water management. Application of polluter cadastre and facilities for wastewater treatment in water management. Economic aspects of public participation in water management.
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| **Name of the Unit: Environment Protection**  | **Credit value: 3** |
| **Type of unit, number of hours:** 2 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 3 |
| **Course description** |
| 1. **The purpose of teaching the subject**

To provide the basic insight into ecosystem approach in environmental protection. It provides an integrative overview of the complexity of biological system and explains the basic ecological principles and postulates necessary for scientifically sound environmental management practice.1. **Assessment**

In the form of an assignment, students must prove their comprehensive knowledge of the entire course content. They must critically present the environment protection challenges and strategy of a selected location.1. **Course contents:**
* Ecosystems: natural, man-made, terrestrial, aquatic. Ecosystem integrity. Ecosystems in environmental protection and nature conservation. Basic ecological principles, processes and ecosystem approach to environmental protection.
* Anthropogenic pressures to ecosystem functions and integrity of terrestrial and aquatic ecosystems: direct and indirect impact of toxic pollutants, global changes and habitat alterations.
* Biological methods (biological quality elements) in environmental monitoring and ecological risk assessment: quantification, impact assessment, trend analysis and prognostics, mitigation of adverse ecological individual and multi stress ecological impact.
* Ecosystem approach to sustainable development and good management practice in environmental protection. Ecosystem restoration – rational, basic principles and examples of good management practices.
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**SPECIALISATION ON ENVIRONMENT AND CATASTROPHY MANAGEMENT**

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| **Name of the Unit: Ecoengineering**  | **Credit value: 5** |
| **Type of unit, number of hours:** 3 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 1 |
| **Course description** |
| 1. **The purpose of teaching the subject**

To deepen knowledge on the methodology of data collection and data processing concerning environmental pollution, the interpretation of data and process design for wastewater treatment flows from production and diffuse sources of environmental pollution. Students also gain the necessary knowledge about the importance of energy sources and resources as an engine, production technologies as basic features of modern civilization, and the economic aspects of environmental issues. The unit also aims to expand the student's knowledge of environmental management instruments applied in organizations and the industrial sector.1. **Assessment**

In the form of an assignment, students must prove their comprehensive knowledge of the entire course content. They must provide a comprehensive analysis of the ecoengineering process.1. **Course contents:**
* Methodology for collecting and processing data on environmental pollution, interpretation of data and process design for wastewater treatment flows from production and waste streams of settlements
* Material and energy balances of pollutants in a particular system environment, calculating the total quantity of pollutants generated in the discharge of industrial processes, ways to minimize waste streams in industrial production
* Designing basis for reactors used in production processes for waste streams (waste water, waste air, waste sludge and solid waste)
* The application of chemical-technological and biotechnological processes for the reduction of air, soil and water pollution. Remediation of contaminated sites. The methodology for the design of systems for the protection of air and water, and systems for the disposal and recycling of waste and remediation of contaminated sites
* Case studies
* Energy (general aspects of energy issues, primary energy sources: oil and natural gas, coal, nuclear power, hydroelectric power, alternative energy sources: renewable and non-renewable resources and alternative technologies; ecological aspects of energy production and use)
* Technology (concepts and definitions, terminology, invention and innovation, the larger context of technology, technological change, technology and the environment)
* The economy of the environment (environmental assessment, the concept of sustainable development, natural resource economics, environmental policy)
* Global framework of environmental management by organizations. Plan environmentalmanagement in organizations. Management tools in the environment, which are applied in organizations. Instrument evaluation. Life-cycle analysis (LCA). Cleaner production.
* Environmental audits. Ecological management accounting. Environmental management systems.
* Environmental labeling. Indicators of environmental performance, reporting about the environment. Green procurement. Policy integrated product. Life-cycle analysis. Risk assessment and risk management.
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| **Name of the Unit: Drinking Water Management**  | **Credit value: 5** |
| **Type of unit, number of hours:** 3 theory 1 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 1 |
| **Course description** |
| 1. **The purpose of teaching the subject**

To gain necessary knowledge and skills in designing processes used in the treatment of drinking water in drinking water treatment plants. The unit also aims to deepen student's knowledge of water treatment relating to modern techniques and processes,and enables students to independently select appropriate techniques and processes based on water quality knowledge.1. **Assessment**

In the form of an assignment, students must prove their comprehensive knowledge of the entire course content. They must provide a comprehensive analysis of the water management pattern and issues of a selected location.1. **Course contents:**
* Characteristics and quality standards for drinking water quality. The choices of unit during drinking water treatment, alternative processing lines (technology) in water treatment. The conceptual design process and the preparation of plants for treatment of drinking water.
* Elements of the project processes and systems. The design phase of water treatment: aeration and air stripping, mixing, coagulation, flocculation, sedimentation, filtration (filters with granular backfill), membrane separation, oxidation and disinfection, lime softening, ion exchange, activated carbon processes, handling chemicals, instrumentation and process control.
* Environmental aspects: preparation of process waste streams, their treatment and disposal. Operator training and initial installation. Safety at the treatment plant.
* The application of modern filtration techniques (two-medium and three-medium filtration). The processes of adsorption (activated carbon, granulated ferric hydroxide, etc.). Trends in coagulation and flocculation. Magnetic ion exchangers. Membrane filtration. Hybrid technology in water treatment. Modern techniques of disinfection and oxidation. Infiltration.
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| **Name of the Unit: Applied Meteorology**  | **Credit value: 5** |
| **Type of unit, number of hours:** 4 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 2 |
| **Course description** |
| 1. **The purpose of teaching the subject**

To upgrade knowledge about spatial and temporal scales of atmospheric processes and their variations. Deeper insight into processes of synoptical and local scales, energy and water balance of organisms, seasonal and climate changes and its impact. Graduate students are prepared for practical application and further improvement of their expertise. 1. **Assessment**

In the form of an assignment, students must prove their comprehensive knowledge of the entire course content. They must provide a comprehensive analysis of the applied meteorology process and structure.1. **Course contents:**
* Climate factors and energy balance of organism. Shortwave radiation. Longwave radiation.
* Calculation of leaf temperature. Atmospheric humidity and precipitation. Interception.
* Transpiration. Evaporation from vegetated surfaces. Photosynthesis. Diffusion within forest canopy. Wind and turbulence. Turbulent transfer within PBL. Wind flow above vegetation. Wind flow within tall vegetation. Basic equations of turbulent flow. Mixing length.
* Standard and urban atmosphere. Energy and water balance of urban atmosphere. Microclimate of urban layer. Climate of urban boundary layer. Urban energy balance and urban climate feedback.
* Models of urban atmosphere.
* Different methods of atmospheric processes and processes describing atmosphere-biosphere interaction.
* Numerical models and different meteorological data bases.
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| **Name of the Unit: Urban Ecology**  | **Credit value: 5** |
| **Type of unit, number of hours:** 4 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 3 |
| **Course description** |
| 1. **The purpose of teaching the subject**

To develop students’ knowledge of the organization and control of active protection of the environment in urban and rural areas, as well as the advanced study of the functioning of the basic elements of the environment in urban and rural areas. Refinement of applying the principles of sustainable development within settlements such as cities.1. **Assessment**

In the form of an assignment, students must prove their comprehensive knowledge of the entire course content. They must provide a comprehensive analysis of the applied ecology strategy of a selected location.1. **Course contents:**
* Concepts of urban ecology: theories of urban ecology and linkages with sustainable urbanism, concepts of Eco cities, smart cities, compact cities etc, challenges and opportunities of urban, rural and peri-urban growth, the concept of local sustainable development - a strategic approach, places in the environment and the structure of space, that is, geospace. Urban ecology and the hygiene of the village.
* Characteristics of urban and rural areas. Protecting and improving the environment in cities, socio-economic aspects of urban ecology. Housing hygiene. Ecological mapping and urban ecology. Information systems in solving the environmental problems of cities.
* Urban Form, Structure and Dynamics, The Urban Ecosystem: An Overview, Ecosystems with Urban Areas: Green Space, Ecosystems within Urban Regions: The Built Environment, Urban Species, Nature Conservation in Urban Regions, Incorporating Ecology in Urban Planning and Design
* Green Spaces, bio-diversity conservation and conflicts: urban greens: challenges and choices for management, human nature interactions and urban forest management, bio-diversity conservation conflicts, spatial dimensions of urban ecology, climate modifications and managing climate change challenges in cities, adaptation and mitigation measures to make cities resilient
* Urban Environment: industrial ecology and symbiosis, management of air quality and noise, urban water ecological challenges
* Impact Analysis and Ecological Footprint Analysis: environmental Impact Analysis, social Impact Analysis and Strategic Environmental Assessment
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| **Name of the Unit: Green Solutions and policies**  | **Credit value: 5** |
| **Type of unit, number of hours:** 3 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 2 |
| **Course description** |
| 1. **The purpose of teaching the subject**

Critical application of knowledge in remediation technologies to developing "green" concepts for remediation strategy, involving processes, products and activities that have little or negligible effect on the environment.1. **Assessment**

In the form of an assignment, students must prove their comprehensive knowledge of the entire course content. They must provide a comprehensive analysis of a range of green solutions and policies.1. **Course contents:**
* The importance of green remediation in environmental protection, environmental sustainability in remediation of contaminated sites (the life cycle of environmental impacts during remediation, improvement of existing methods in order to achieve remediation methods that can be called ormethods belonging to green remediation). Development of methods for efficiency analysis of green remediation.
* Economic aspects of green remediation. Renewable energy (integration and optimization of renewable energy, low intensity energy). Selection and design of green remediation processes.
* Innovative technologies used to achieve green remediation (reactive barriers, phytoremediation, nano-technology). Methodology for the development of new technologies in order to achieve efficiency in green remediation.
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| **Name of the Unit: Nuclear Energy**  | **Credit value: 5** |
| **Type of unit, number of hours:** 3 theory 0 practice |
| **The method of reckoning:** assignment |
| **Course curriculum location:** semester 3 |
| **Course description** |
| 1. **The purpose of teaching the subject**

Introduction to the basic principles of fission and fusion energetics as well as to controlled fission and fusion facilities.1. **Assessment**

In the form of an assignment, students must prove their comprehensive knowledge of the entire course content. They must provide a comprehensive analysis of the nature, use and current issues of nuclear energy.1. **Course contents:**
* Nuclear fission (chain reaction, critical mass, reaction cross-section. multiplication factor).
* Fission reactors. (Homogeneous and heterogeneous reactors. Reactor contamination. Change of multiplication factor - reactor regulation. Reactor types.) Basic scheme of nuclear fission power plant. Nuclear fusion. (Fusion reactions - cross-section. Energy balance in fusion reactors.)
* Fusion plasma heating methods. (Ohms heating. Magnetic mirror trap. Heating by adiabatic and shock compression. Pinches. Instability of Pinches. Fusion plasma confinement. (Magnetic confinement - tokamak. Inertial confinement. Interaction of the laser beam with target.)
* Energetics of target microexplosion. Energetic of thermonuclear power plant with inertial confinement.
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**Degree Thesis**

## **Thesis Project**

The student has to prepare a Degree Thesis. The project topic will be chosen in discussion with the academic adviser and the candidate's chosen consultant(s), and will have major outcomes in terms of personal professional development, organisational benefits and broader relevance to the professional community to which the candidate belongs. The aim is for students to develop a project in relation to a specific organizational issue or problem.

**Subject Focus**

The ANOBS recognises that professional practice is grounded in real organisations, and often in specific disciplines, and that practitioners taking the course will often belong to specific professional bodies. In order to recognise and harness the subject- and profession-specific nature of practitioners' individual practice, those taking the MSc will be encouraged to build learning relationships with other candidates working in similar spheres of activity. In addition, specialist subject and professional advice will be available from expert and highly experienced staff within the ANU’s institutions, especially in the following areas:

* Accounting,
* business,
* economics,
* enterprise,
* finance,
* human resource management and development,
* law,
* management,
* marketing.

In addition, expertise may be drawn from other relevant areas across the ANU, including:

* Business information systems,
* information technologies,
* media sciences and public relations,
* computer sciences,
* knowledge management,
* social science,
* politics,
* psychology,
* development studies,
* risk management.

**Requirements of the MSc Degree Thesis**

**Formal requirements**

**Languages**

The language of the thesis can be English, German, French, Russian or Hungarian.

**The cover should include:**

* the title and author of the thesis,
* tutor’s name,
* the place where it was written,
* year,
* **Alfred Nobel Open Business School Switzerland**
* the list of the final examination board and
* the name of the official reviewers

**Tipographic and printing requirements**

* **Length:** minimum 30, maximum 100 pages in A4 format (every page should be numbered); 1.5 spacing between the lines
* **Margins:** 3 cm in either side (for binding!)
* **Paper**: International ISO A4 (8½x11 inches, 210 × 297 mm) Presentation single sided and high quality paper, preferably printed with a laser printer
* **Character type:** Scalable fonts should be 10 to 12 points in size. Do not use exotic fonts (slanted, square, or script type) for the entire document, but special fonts may be used for emphasis or when otherwise appropriate. Students should make sure that the print is uniformly letter quality. Laser print, ink jet print, or high-quality photocopying is acceptable. Dot matrix or near letter quality print is not acceptable. The type style and size must be the same throughout the thesis or dissertation.
* **Page numbers**: the bottom centre of the page.
* **References:** numbered with Arabic numbers in the text – e.g. (6, 12)   In the reference section the references should be either alphabetically or chronologically ordered.

**Items to be submitted with DBA thesis**

* A thesis outline in English (generally 1-2 pages, A4 format)
* An electronic copy of the thesis, the summaries and the thesis outlines (doc, docx or pdf format if possible)
* A supporting letter from the supervisor

**Suggested Structure**

**Table of Contents should include:**

* abstract
* introduction (with the background of the technical literature),
* objectives,
* methods,
* conclusions,
* acknowledgements,
* bibliography,
* the bibliography of the candidate’s publications (the publications related to the theme of the thesis should be listed separately in chronological order).
* Summary: in English language (up to one page each; spaced 1.5, approximately 25 lines)

**Abstract**

Degree thesis abstracts should be 200 to 400 words long. Both should describe the problem or topic, any important or distinctive methods used in the research, and the principal conclusions reached. Typing instructions for the thesis apply equally to the abstract, which must be submitted to the School with the thesis but not paginated as part of it. The abstract itself should begin three spaces below the last line of the title matter.

**Chapters**

Suggested chapters:

* Introduction
* Research backgrounds, precedents of research
* Methods of research
* The results of the research
* Formerly issued publications in the area of the thesis
* Conclusions
* Summary

**Bibliographies/References**

For the proper form and divisions of the Bibliography referenced, students follow the Harvard referencing system.

**Figures, Tables and Photos**

All figures, photos and tables (computer graphics, photographs, color maps, color illustrations, drawings, charts, graphs, etc.) must be neatly drawn and lettered, (no ball-point pen); good quality color illustrations can be used when appropriate. All such materials must fit inside the regular margins of the page. Oversize materials should be reduced in size to conform to the margins.

Each illustration should be labelled as “Fig. 1,” “Fig. 2,” and so on, consecutively through the thesis or dissertation. If more than a few figures are used, a List of Figures should follow the Table of Contents.

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