

The Best Available Techniques in Production

Course Workload		Assessment form (examination/ graded test/ ungraded test)
ECTS	Hours	
3	108	Exam

Application of BAT in the modern world becomes a topical issue in connection with toughening of ecological legislation of the Russian Federation in the sphere of environmental protection. This course allows mastering metrology of BAT selection, studying normative base of BAT application in various industries, establishing ecological and economic indicators of BAT implementation efficiency in production. This course is aimed at practical assimilation of the material, formation of skills and abilities with active use of normative and theoretical base. The course will contribute to the formation of competencies that will allow the student to build an expert opinion in the field of ecologisation of industrial production and justify the application of BAT

Course structure:

1. International and European experience in BAT in production and waste management, practice of its application in the Russian Federation

- 1.1. Russian national standards in the field of resource saving and information and technical reference books on BAT
- 1.2. International experience in the sphere of best available technologies
- 1.3. EU system of BAT reference documents in energy sector, chemical, petrochemical and food industry and waste management
- 1.4. Procedures for transition of Russian enterprises to BAT-based technological standardization. Integrated environmental permits, environmental control programs and environmental declarations for the calculation of payment for adverse environmental impact

2. BAT identification in production on the basis of indicators of environmental and economic efficiency

- 2.1. Determination of environmental and economic impacts of implementation of BAT
- 2.2. BAT identification algorithm and BAT description. Current emission levels
- 2.3. Marker substances and processes

2.4. Economic aspects and other impacts of implementation of BAT

3. Ecological and economic analysis of investment projects when introducing BAT in production

3.1. Indicators of economic efficiency of investment projects implementation of BAT. Cash flow

3.2. Principles of integrated environmental impact assessment. Methodology of cost assessment for BAT implementation

3.3. Assessment of alternative technologies. Assessment of economic feasibility of technology for particular industry sector

3.4. Determination of environmental life cycle costing (LCC)