

## List of subjects for “Chemical engineering” field of study

### Major – Chemical engineering

1. History
2. Foreign language
3. Philosophy
4. Life safety
5. Physical education
6. Knowledge and skills systematization in professional activity
7. Mathematics
8. Physics
9. Ecology
10. Engineering drawing and computer graphics
11. Applied mechanics
12. Electrical engineering
13. General chemical and biotechnology
14. Modern analysis methods in chemical engineering
15. Oil and gas chemistry
16. Petrochemical system equipment and oil refining ventures design engineering
17. Material science
18. Research basics
19. Enterprises economics and production management
20. Organic materials chemistry and technology
21. Chemmotology basics
22. Natural gas conversion
23. Catalysis in oil refining
24. Chemical engineering processes and devices
25. Environment protection technique
26. Oil refining and petrochemistry basics
27. Applied physical education
28. Research
29. Computer science
30. Analytical chemistry and physico-chemical testing
31. General organic and inorganic chemistry
32. Physical and colloid chemistry
33. Hydraulic system and heat engineering
34. Oil and gas refining technology
35. Nanotechnology and nanomaterials
36. Nanostructure materials and nanocomposite
37. Numerical methods and hand-on programming
38. Software in petrochemical synthesis
39. Chemical and technological processes modeling
40. Modeling in chemical and technological systems
41. Porous carbon materials
42. Carbon black usage
43. High-molecular compound chemistry
44. Polymer physics and chemistry
45. Polymer processing chemistry and technology
46. Chemical industry management systems and automation
47. Chemical and technological equipment automation
48. Catalyst production technology
49. Technology and equipment for catalyzer production in oil refining
50. Chemical reactor
51. Heterogeneous catalysis
52. Technology and equipment for carbon black production
53. Oil refining and petrochemical equipment
54. Education internship (internship for getting primary professional skills, including skills for research)
55. Production internship (internship for getting professional skills and experience in the field of study)
56. Production internship (pre-diploma practice)
57. State exams
58. Elementary mathematics

## Major – Organic materials chemical engineering

1. History
2. Foreign language
3. Philosophy
4. Life safety
5. Physical education
6. Enterprise economics and production management
7. Physics
8. Mathematics
9. Ecology
10. Engineering drawing and computer graphics
11. Research basics
12. Knowledge and skills systematization in professional activity
13. Material science
14. Organic materials chemistry and technology
15. Electrical engineering
16. Oil and gas chemistry
17. Applied mechanics
18. General chemistry a biotechnology
19. Petrochemical system equipment and oil refining ventures design engineering
20. Chemmotology basics
21. Modern analysis methods in chemical engineering
22. Oil and gas refining technology
23. Organic chemistry
24. Physical and colloid chemistry
25. Thermal dynamics and heat transfer
26. Applied physical education
27. Vocational profession training
28. Computer science
29. Fluid and gas mechanics
30. Chemistry
31. Foreign language for special purposes
32. Industrial safety
33. Special technology
34. Technological units automation
35. Chemical engineering processes and devices
36. Chemical devices calculation basics
37. Steam and fluid systems thermal dynamics
38. Nanotechnology and nanomaterials
39. Physical experiment basics
40. Low temperature experiment devices and equipment
41. High-molecular compound chemistry
42. Polymer processing chemistry and technology
43. Oil and petrochemistry refining basics
44. Natural gas conversion
45. Catalysis in oil refining and petrochemistry
46. Catalysis in oil refining industry
47. Chemical reactors
48. Heterogenous catalysis
49. Chemical and technological processes modeling
50. Software in chemical engineering
51. Education internship (internship for getting primary professional skills, including skills for research)
52. Production internship (internship for getting professional skills and experience in the field of study)
53. Production internship (pre-diploma practice)
54. State exams
55. Elementary mathematics

## Major – Natural resource energy and carbon materials chemical engineering

1. History
2. Foreign language
3. Philosophy
4. Life safety
5. Physical education
6. Knowledge and skills systematization in professional activity
7. Mathematics
8. Physics
9. Ecology
10. General, inorganic and organic chemistry
11. Engineering drawing and computer graphics
12. General chemistry and biotechnology
13. Research basics
14. Oil and gas refining technology
15. Organic materials chemistry and technology
16. Chemical and technological processes theory
17. Modern analysis methods in chemical engineering
18. Petrochemical system equipment and oil refining ventures design engineering
19. Chemmotology basics
20. Physical and chemical basics of environment protection processes
21. Methods and equipment for environment control
22. Mechanical transmission engineering
23. Oil refining ventures engineering
24. Environment protection methods
25. Applied physical education
26. Research
27. Physical and colloid chemistry
28. Applied mechanics
29. Electrical engineering
30. Hydraulic systems and thermal engineering
31. Enterprises economics and production management
32. Computer science
33. Analytical chemistry and physical and chemical analysis methods
34. Material science
35. Petrochemical equipment and pipeline operation
36. Modern petrochemical system and oil refining ventures engineering
37. Chemical engineering mass-transfer apparatus
38. Numerical methods and hand-on programming
39. Chemical and technological processes modeling
40. Modeling in chemical and technological systems
41. Industrial environmental control
42. Ecological auditing of chemical and petrochemical enterprises
43. Chemical engineering processes and devices
44. Chemical devices calculations
45. Environmental management legal framework
46. Environmental law
47. High-molecular compound chemistry
48. Polymer chemistry and physics
49. Chemical and technological equipment automation
50. Chemical and technological processes management system
51. Chemical and technological equipment maintenance and installation
52. Advanced petroleum refining
53. Education internship (internship for getting primary professional skills, including skills for research)
54. Production internship (internship for getting professional skills and experience in the field of study)
55. Production internship (pre-diploma practice)
56. State exams
57. Elementary mathematics