NORTH UNIVERSITY OF BAIA MARE
FACULTY OF SCIENCES
CHEMISTRY-BIOLOGY DEPARTMENT

Starting with 2008-2009 academic year

FIELD OF EXPERTISE: FOOD ENGINEERING
STUDIES TIME RANGE: 4 YEARS

# TEACHING PLAN

1st Year

| Nr. crt. | CODE | Denumire disciplina/Name of disciplines | Type of discipline | SEMESTRUL I/1st Semester | | | | | SEMESTRUL II/2nd Semester | | | | | TOTAL HOURS | TOTAL CREDITS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | C | S | L | FV | CR | C | S | L | FV | CR | | |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 1 | SIPAL101 | Matematica si statistica<br>Mathematics and statistics | Dob/DF | 2 | 1 | - | Ex | 3 | - | - | - | - | - | 42 | 3 |
| 2 | SIPAL102 | Chimie anorganică şi analitică<br>Inorganic and analytical chemistry | Dob/DF | 2 | - | 2 | Ex | 4 | - | - | - | - | - | 56 | 4 |
| 3 | SIPAL103 | Chimie organică<br>Organic chemistry | Dob/DF | 2 | - | 2 | Ex | 4 | - | - | - | - | - | 56 | 4 |
| 4 | SIPAL104 | Chimie fizică şi coloidală<br>Physical chemistry and colloid chemistry | Dob/DF | 2 | - | 1 | C | 4 | - | - | - | - | - | 42 | 4 |
| 5 | SIPAL105 | Biofizică<br>Biophysics | Dob/DF | 2 | - | 2 | Ex | 4 | - | - | - | - | - | 56 | 4 |
| 6 | SIPAL106 | Informatică aplicată şi grafică asistată de calculator<br>Applied informatics and computer assisted graphic | Dob/DF | 1 | - | 2 | C | 3 | - | - | - | - | - | 42 | 3 |
| 7 | SIPAL107 | Ecologie şi protecţia mediului<br>Ecology and environment protection | Dob/DF | 2 | 1 | - | Ex | 3 | - | - | - | - | - | 42 | 3 |
| 8 | SIPAL108 | Educaţie fizică I<br>Physical training I | Dob/DC | - | 1 | - | A/R | 2 | - | - | - | - | - | 14 | 2 |
| 9 | SIPAL109 | Limbă străină I<br>Foreign language I | Dob/DC | - | 2 | - | C | 3 | - | - | - | - | - | 28 | 3 |
| 10 | SIPAL201 | Matematica si statistica<br>Mathematics and statistics | Dob/DF | - | - | - | - | - | 2 | 1 | - | Ex | 3 | 42 | 3 |
| 11 | SIPAL202 | Chimie anorganică şi analitică<br>Inorganic and analytical chemistry | Dob/DF | - | - | - | - | - | 2 | - | 2 | Ex | 4 | 56 | 4 |
| 12 | SIPAL203 | Chimie fizică şi coloidală<br>Physical chemistry and colloid chemistry | Dob/DF | - | - | - | - | - | 2 | - | 2 | Ex | 6 | 56 | 6 |
| 13 | SIPAL204 | Informatică aplicată şi grafică asistată de calculator<br>Applied informatics and computer assisted graphic | Dob/DF | - | - | - | - | - | 1 | - | 2 | Ex | 4 | 42 | 4 |
| 14 | SIPAL205 | Chimia alimentelor<br>Food chemistry | Dob/DF | - | - | - | - | - | 2 | - | 2 | Ex | 4 | 56 | 4 |
| 15 | SIPAL206 | Politici şi strategii globale de securitate alimentară<br>Global politics and strategies for food safety | Dob/DS | - | - | - | - | - | 1 | 2 | - | C | 4 | 42 | 4 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 16 | SIPAL207 | Educaţie fizică II<br>Physical training II | Dob/DC | - | - | - | - | - | - | 1 | - | A/R | 2 | 14 | 2 |

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| 17 | SIPAL208 | Limbă străină I<br>Foreign language I | Dob/DC | - | - | - | - | - | - | 2 | - | C | 3 | 28 | 3 |
| | | **TOTAL ORE** | | **13** | **5** | **9** | **1A/R** | | **10** | **6** | **8** | **1A/R** | | | |
| | | **TOTAL GENERAL** | | | **27** | **5Ex** | **3C** | **30** | | **24** | **5Ex** | **2C** | **30** | **714** | **60** |

DC - complementary
DF - fundamental
DS - speciality

DOb - obligatory
DOp- optional

C - class FV - exam, colocvium
S - seminar CR - assigned acredits
L - laboratory

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# TEACHING PLAN
## 2nd Year

| Nr. crt. | CODE | Denumire disciplina/Name of disciplines | Type of discipline | EMESTRUL III/3rd Semester | | | | | | SEMESTRUL IV/4th Semster | | | | | | TOTAL HOURS | TOTAL CREDITS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | C | S | L | P | FV | CR | C | S | L | P | FV | CR | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 1 | SIPAL301 | Biochimie<br>Biochemistry | Dob/DF | 2 | - | 2 | - | Ex | 5 | - | - | - | - | - | - | 56 | 5 |
| 2 | SIPAL302 | Microbiologie generală<br>General microbiology | Dob/DF | 2 | - | 2 | - | Ex | 5 | - | - | - | - | - | - | 56 | 5 |
| 3 | SIPAL303 | Igiena societăţilor agro-alimentare<br>Agri-food institutions hygiene | Dob/DS | 2 | - | 2 | - | Ex | 5 | - | - | - | - | - | - | 56 | 5 |
| 4 | SIPAL304 | Operaţii unitare în industria alimentara<br>Unit operations in food industry | Dob/DS | 2 | - | 2 | - | Ex | 5 | - | - | - | - | - | - | 56 | 5 |
| 5 | SIPAL305 | Ambalaje şi design<br>Packages and design | Dob/DS | 2 | - | 1 | - | C | 5 | - | - | - | - | - | - | 42 | 5 |
| 6 | SIPAL306 | Elemente de inginerie mecanică<br>Mechanical engineering elements | Dob/DS | 2 | - | 1 | 1 | Ex | 4 | - | - | - | - | - | - | 56 | 4 |
| 7 | SIPAL307 | Limbă străină II<br>Foreign language II | Dob/DC | - | 2 | - | - | C | 1 | - | - | - | - | - | - | 28 | 1 |
| 8 | SIPAL401 | Biochimie<br>Biochemistry | Dob/DF | - | - | - | - | - | - | 2 | - | 2 | - | Ex | 5 | 56 | 5 |
| 9 | SIPAL402 | Principiile nutriţiei umane<br>Principles of human nutrition | Dob/DS | - | - | - | - | - | - | 2 | - | 2 | - | Ex | 4 | 56 | 4 |
| 10 | SIPAL403 | Operaţii unitare în industria alimentara<br>Unit operations in food industry | Dob/DS | - | - | - | - | - | - | 2 | - | 2 | 1 | Ex | 4 | 70 | 4 |
| 11 | SIPAL404 | Coloizi în industria alimentară<br>Colloids in food industry | Dob/DF | - | - | - | - | - | - | 2 | - | 2 | - | Ex | 4 | 56 | 4 |
| 12 | SIPAL405 | Inocuitatea produselor alimentare<br>Food innocuity | Dob/DS | - | - | - | - | - | - | 2 | - | 2 | - | Ex | 4 | 56 | 4 |
| 13 | SIPAL406 | Limbă străină II<br>Foreign language II | Dob/DC | - | - | - | - | - | - | - | 2 | - | - | C | 1 | 28 | 1 |
| 14 | SIPAL407 | Practică<br>Practical activity | Dob/DS | 3 saptamani x 30 ore/ saptamana | | | | | | | | | | C | 5 | | 5 |
| | | **TOTAL hours** | | **12** | **2** | **10** | **1** | **5Ex** | | **10** | **2** | **10** | **1** | **5Ex** | | | |
| | | **TOTAL GENERAL** | | **25** | | | | **2C** | **30** | **23** | | | | **2C** | **27** | **672** | **57** |

| 1 | 2 | 3<br>**Discipline optionale/Optional disciplines** | 4 | 5 | 67 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO I** | SIPAL408 | **Elemente de inginerie electrică şi automatizări**<br>Elements of automatization and electric engineering | Dop/DS | - | - | - | - | - | - | 2 | - | 1 | - | Ex | 3 | 42 | 3 |

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| | | Coroziunea şi protecţia anticorozivă<br>Corrosion and protection against corrosion | Dop/DC | - | - | - | - | - | - | 2 | - | 1 | - | Ex | 3 | 42 | 3 |
| | | **TOTAL Hours** | | **-** | **-** | **-** | - | **-** | **-** | **2** | **-** | **1** | **-** | | | | |
| | | **TOTAL HOURS OPTIONALS** | | | | - | | **2C** | | | **3** | | | **1Ex** | **3** | **42** | **3** |
| | | **TOTAL GENERAL** | | | **25** | | | **5Ex** | **30** | | **26** | | | **6Ex;** | **30** | **714** | **60** |

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Starting with 2010-2011 academic year

# TEACHING PLAN 3rd Year

| Nr. crt | CODE | Denumire disciplina/Name of disciplines | Type of discipline | EMESTRUL III/3rd Semester | | | | | | SEMESTRUL IV/4th Semster | | | | | | TOTAL HOURS | TOTAL CREDITS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | C | S | L | P | FV | CR | C | S | L | P | FV | CR | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 1 | SIPAL501 | Utilaje în industria alimentara **<br>Efood industry equipment | Dob/DS | 2 | - | 1 | - | C | 3 | - | - | - | - | - | - | 42 | 3 |
| 2 | SIPAL502 | Tehnica frigului artificial în prelucrarea produselor alimentare<br>Artificial freezing technique in food processing | Dob/DS | 2 | 1 | - | - | Ex | 3 | - | - | - | - | - | - | 42 | 3 |
| 3 | SIPAL503 | Analiza fizico-chimică şi senzorială a alimentelor<br>Physico-chemical and sensory analysis of food | Dob/DS | 2 | - | 2 | - | C | 4 | - | - | - | - | - | - | 56 | 4 |
| 4 | SIPAL504 | Biotehnologii alimentare<br>Food biotechnologies | Dob/DS | 2 | - | 1 | - | Ex | 3 | - | - | - | - | - | - | 42 | 3 |
| 5 | SIPAL601 | Utilaje în industria alimentara **<br>Efood industry equipment | Dob/DS | - | - | - | - | - | - | 2 | - | 1 | 1 | Ex | 4 | 56 | 4 |
| 6 | SIPAL602 | Analiza fizico-chimică şi senzorială a alimentelor<br>Physico-chemical and sensory analysis of food | Dob/DS | - | - | - | - | - | - | 2 | - | 3 | - | Ex | 4 | 70 | 4 |
| 7 | SIPAL603 | Microbiologie specială I<br>Special microbiology I | Dob/DS | - | - | - | - | - | - | 2 | - | 2 | - | Ex | 3 | 56 | 3 |
| 8 | SIPAL604 | Practica<br>Practical activity | Dob/DS | 2 saptamani x 30 ore /saptamana | | | | | | | | | | C | 4 | | 4 |
| | | **TOTAL HOURS** | | **8** | **1** | **4** | **-** | | | **6** | **-** | **6** | **1** | | | | |
| | | **TOTAL GENERAL** | | **13** | | | **2C** | **2Ex;** | **13** | **13** | | | **1C** | **3Ex** | **15** | **364** | **28** |
| | | **Discipline optionale/Optionals Disciplines** | | | | | | | | | | | | | | | |
| **PO I*, **** | SIPAL505 | Tehnologii în industria alimentara I<br>Technologies in food industryl | Dop/DS | 2 | - | 2 | - | Ex | 4 | - | - | - | - | - | - | 56 | 4 |
| **PO II*, **** | SIPAL506 | Tehnologii în industria alimentara II<br>Technologies in food industryII | Dop/DS | 2 | - | 2 | - | Ex | 5 | - | - | - | - | - | - | 56 | 5 |
| **PO III, **** | SIPAL507 | Tehnologii în industria alimentara III<br>Technologies in food industry III | Dop/DS | 2 | - | 2 | - | Ex | 5 | - | - | - | - | - | - | 56 | 5 |
| **PO IV*,**** | SIPAL508 | **Toxicologia produselor alimentare**<br>Food toxicology | Dop/DS | 2 | - | 1 | - | C | 3 | - | - | - | - | - | - | 42 | 3 |
| | | Principii şi metode de conservare a produselor alimentare<br>Principles and methods for food preservation | Dop/DS | 2 | - | 1 | - | C | 3 | - | - | - | - | - | - | 42 | 3 |
| **PO V*, **** | SIPAL605 | Tehnologii în industria alimentara I<br>Technologies in food industryl | Dop/DS | - | - | - | - | - | - | 2 | - | 1 | 1 | Ex | 4 | 56 | 4 |
| **PO VI*, **** | SIPAL606 | Tehnologii în industria alimentara II<br>Technologies in food industryII | Dop/DS | - | - | - | - | - | - | 2 | - | 1 | 1 | Ex | 4 | 56 | 4 |
| **PO VII, **** | SIPAL607 | Tehnologii în industria alimentara III<br>Technologies in food industry III | Dop/DS | - | - | - | - | - | - | 2 | - | 1 | 1 | Ex | 4 | 56 | 4 |

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| **PO VIII*,**** | SIPAL608 | **Toxicologia produselor alimentare**<br>Food toxicology | Dop/DS | - | - | - | - | - | - | 2 | - | 1 | - | C | 3 | 42 | 3 |
| | | Principii şi metode de conservare a produselor alimentare<br>Principles and methods for food preservation | Dop/DS | - | - | - | - | - | - | 2 | - | 1 | - | C | 3 | 42 | 3 |
| | | **TOTAL HOURS** | | **8** | **-** | **7** | - | **-** | **-** | **8** | **-** | **4** | **3** | | | | |
| | | **TOTAL HOURS OPTIONALS** | | **15** | | | **3EX** | **1C** | **17** | **15** | | | **3Ex** | **1C** | **15** | **420** | **32** |
| | | **TOTAL GENERAL** | | **28** | | | **5Ex** | **3C** | **30** | **28** | | | **6Ex** | **2C** | **30** | **784** | **60** |

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| **PO I*,**** | SIPAL505 | **Tehnologia laptelui şi produselor de lapte**<br>Technology of milk and dairy products |
| | | Tehnologia prelucrarii subproduselor alimentare<br>Technology of food-subproducts processing |
| **PO II*,**** | SIPAL506 | **Tehnologia moraritului şi panificaţiei**<br>Technology of milling and bakery |
| | | Tehnologia pastelor fainoase<br>Technology of pastas |
| **PO III*,**** | SIPAL507 | **Tehnologia uleiului si zaharului**<br>Technology of oil and sugar |
| | | Tehnologia conservelor<br>Technology of canned food |
| **PO V*,**** | SIPAL605 | **Tehnologia laptelui şi produselor de lapte**<br>Technology of milk and dairy products |
| | | Tehnologia prelucrarii subproduselor alimentare<br>Technology of food-subproducts processing |
| **PO VI*,**** | SIPAL606 | **Tehnologia moraritului şi panificaţiei**<br>Technology of milling and bakery |
| | | Tehnologia pastelor fainoase<br>Technology of pastas |
| **PO VII*,**** | SIPAL607 | **Tehnologia uleiului si zaharului**<br>Technology of oil and sugar |
| | | Tehnologia conservelor<br>Technology of canned food |

**FACULTATIVES*****

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SCEPL508 | Trasabilitatea contaminantilor pe lantul alimentar<br>Traceability of contaminants along of food chain | DFac/DS | 2 | - | 2 | - | C | 5 | - | - | - | - | - | - | 56 | 5 |

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# TEACHING PLAN 4th Year

| Nr. crt. | CODE | Denumire disciplina/Name of disciplines | Type of discipline | EMESTRUL III/3rd Semester | | | | | | SEMESTRUL IV/4th Semster | | | | | | TOTAL HOURS | TOTAL CREDITS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | C | S | L | P | FV | CR | C | S | L | P | FV | CR | | |
| 1 | SIPAL701 | Marketing<br>Marketing | DOb/DS | 2 | 2 | - | - | Ex | 5 | - | - | - | - | - | - | 56 | 5 |
| 2 | SIPAL702 | Controlul calităţii produselor alimentatre<br>Food quality control | DOb/DS | 3 | - | 3 | - | C | 8 | - | - | - | - | - | - | 84 | 8 |
| 3 | SIPAL703 | Aditivi alimentari şi ingrediente<br>Food additives and ingredients | DOb/DS | 2 | - | 2 | - | C | 5 | - | - | - | - | - | - | 56 | 5 |
| 4 | SIPAL801 | Management<br>Management | DOb/DS | - | - | - | - | - | - | 2 | 2 | - | - | Ex | 4 | 56 | 4 |
| 5 | SIPAL802 | Contabilitate<br>Accountancy | DOb/DS | - | - | - | - | - | - | 2 | 2 | - | - | Ex | 3 | 56 | 3 |
| 6 | SIPAL803 | Controlul calităţii produselor alimentatre<br>Food quality control | DOb/DS | - | - | - | - | - | - | 3 | - | 3 | - | Ex | 6 | 84 | 6 |
| 7 | SIPAL804 | Activităţi practice pentru elaborarea proiectului de licenta<br>Practical activities for licences thesis elaboration | DOb/DS | 2 saptamani x 30 ore /saptamana | | | | | | | | | | C | 3 | | 3 |
| | | **TOTAL HOURS** | | **7** | **2** | **5** | **-** | **1E** | | **7** | **4** | **3** | **-** | **1C** | | | |
| | | **TOTAL GENERAL** | | **14** | | | | **2C** | **18** | **14** | | | | **3Ex** | **16** | **392** | **34** |
| | | **Discipline optionale/Optionals Disciplines** | | | | | | | | | | | | | | | |
| **PO I*,**** | SIPAL704 | **Tehnologii în industria alimentara IV**<br>Technologies in food industry IV | Dop/DS | 2 | - | 2 | - | Ex | 6 | - | - | - | - | - | - | 56 | 6 |
| **PO II*,**** | SIPAL705 | Tehnologii în industria alimentara V<br>Technologies in food industry V | Dop/DS | 2 | - | 2 | - | Ex | 6 | - | - | - | - | - | - | 56 | 6 |
| **PO III*,**** | SIPAL805 | **Alimente cu destinatie speciala**<br>Food with special destination | Dop/DS | - | - | - | - | - | - | 2 | - | 1 | 1 | C | 4 | 56 | 4 |
| | | Legislaţie şi protecţia consumatorilor<br>Legislation and consumers' protection | Dop/DS | - | - | - | - | - | - | 2 | - | 2 | - | C | 4 | 56 | 4 |
| **PO IV*,**** | SIPAL806 | **Tehnologii în industria alimentara IV**<br>Technologies in food industry IV | Dop/DS | - | - | - | - | - | - | 2 | - | 1 | 1 | Ex | 5 | 56 | 5 |
| **PO V*,**** | SIPAL807 | Tehnologii în industria alimentara V<br>Technologies in food industry V | Dop/DS | - | - | - | - | - | - | 2 | - | 1 | 1 | Ex | 5 | 56 | 5 |
| | | **TOTAL ORE** | | **4** | **-** | **4** | **-** | **-** | **-** | **4** | **-** | **2** | **2** | | | | |
| | | **TOTAL ORE DISCIPLINE OPTIONALE** | | **8** | | **-** | | **2Ex** | **12** | **8** | | | **2Ex** | **1C** | **14** | **280** | **26** |
| | | **TOTAL GENERAL** | | **22** | | | **3Ex** | **2C** | **30** | **22** | | | **5Ex** | **2C** | **30** | **672** | **60** |

| | | |
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| **PO I** | SIPAL704 | **Tehnologia carnii si produselor din carne** |

| | | |
|---|---|---|
| I*,** | | Technology of meat and meat products |
| | | Tehnologia vinului<br>Technology of wine |

| | | |
|---|---|---|
| PO II*,** | SIPAL705 | **Tehnologii fermentative**<br>Technology of fermentative |
| | | Tehnologia produselor zaharoase<br>Technology of sugary products |

| | | |
|---|---|---|
| PO I IV*,** | SIPAL806 | **Tehnologia carnii si produselor din carne**<br>Technology of meat and meat products |
| | | Tehnologia vinului<br>Technology of wine |

| | | |
|---|---|---|
| PO V*,** | SIPAL807 | **Tehnologii fermentative**<br>Technology of fermentative |
| | | Tehnologia produselor zaharoase<br>Technology of sugary products |

**FACULTATIVES**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SCEPL707 | Inginerie si management in alimentatia publica<br>Feeding engineering and management | DFac/DS | 2 | - | 2 | - | C | 5 | - | - | - | - | - | - | 56 | 5 |
| 2 | SCEPL808 | Managementul proiectelor de industrie alimentara<br>Management of food industry projects | DFac/DS | - | - | - | - | - | - | 2 | - | 2 | - | C | 5 | 56 | 5 |

*** - creditele se acorda peste cele 30 ale semestrului

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