

## COURSE UNIT (MODULE) DESCRIPTION

| Course unit (module) title                      | Code |
|---|------|
| Modelling of Macroeconomic (Business) Decisions |      |

| Academic staff                        |                         | Core academic unit(s)        |                             |  |  |  |
|---------------------------------------|-------------------------|------------------------------|-----------------------------|--|--|--|
| Coordinating: assoc. prof. dr. Solvei | ga Skunčikienė          | Vilnius U                    | Jniversity Šiauliai Academy |  |  |  |
| Other:                                |                         |                              |                             |  |  |  |
| Study cycle                           |                         | Type of the course unit      |                             |  |  |  |
| First                                 |                         | Individual studies           |                             |  |  |  |
|                                       |                         |                              |                             |  |  |  |
| Mode of delivery                      | Semester or pe<br>deliv |                              | Language of instruction     |  |  |  |
| Distance learning                     | Autumn                  | semester                     | Lithuanian/English          |  |  |  |
|                                       |                         |                              |                             |  |  |  |
|                                       | Requ                    | isites                       |                             |  |  |  |
| Prerequisites: basic economic and IT  | skills                  | Co-requisites (if relevant): |                             |  |  |  |
| Number of ECTS credits Stude          | ent's workload          |                              |                             |  |  |  |

| Number of ECTS credits<br>allocated | Student's workload<br>(total) | <b>Contact hours</b> | Individual work |  |
|-------------------------------------|-------------------------------|----------------------|-----------------|--|
| 5                                   | 134                           | 53                   | 81              |  |

| Purpose of the course unit  |                                    |                      |  |  |  |  |  |  |  |
|---|------------------------------------|----------------------|--|--|--|--|--|--|--|
| The macroeconomic (business) decision modelling module aims to give students the skills necessary to assess the         |                                    |                      |  |  |  |  |  |  |  |
| relationships that exist between the government, businesses, and households in an open economy, to comprehend how       |                                    |                      |  |  |  |  |  |  |  |
| the media can affect these relationships, and to make both short- and long-term strategic decisions that will determine |                                    |                      |  |  |  |  |  |  |  |
| the state's balanced development.   |                                    |                      |  |  |  |  |  |  |  |
| Learning outcomes of the course unit  | Teaching and learning methods      | Assessment methods   |  |  |  |  |  |  |  |
| Students will learn the fundamental   | Case analysis (Case study), Group  | Exam                 |  |  |  |  |  |  |  |
| theories of economics, understand the   | work, Simulation (engineering,     |                      |  |  |  |  |  |  |  |
| areas of use of simulation models in  | technology or process simulation), |                      |  |  |  |  |  |  |  |
| analysing micro and macroeconomic   | Discussion, Literature analysis    |                      |  |  |  |  |  |  |  |
| processes, and be able to explain the role  |                                    |                      |  |  |  |  |  |  |  |
| of the government, companies,   |                                    |                      |  |  |  |  |  |  |  |
| households, and the media in the economy  |                                    |                      |  |  |  |  |  |  |  |
| and their interrelationships.   |                                    |                      |  |  |  |  |  |  |  |
| Students will be able to argue the strategic  | Case analysis (Case study), Group  | Exam, Group Homework |  |  |  |  |  |  |  |
| decisions that determine the balanced   | work, Simulation (engineering,     |                      |  |  |  |  |  |  |  |
| development of the state based on the   | technology or process simulation), |                      |  |  |  |  |  |  |  |
| main economic indicators describing the   | Discussion, Literature analysis    |                      |  |  |  |  |  |  |  |
| activities of the country's financial   |                                    |                      |  |  |  |  |  |  |  |
| entities,   |                                    |                      |  |  |  |  |  |  |  |
| Students will be able to model micro and  | Case analysis (Case study), Group  | Group homework       |  |  |  |  |  |  |  |
| macro processes and provide practical   | work, Simulation (engineering,     |                      |  |  |  |  |  |  |  |
| suggestions for solving problems using  | technology or process simulation), |                      |  |  |  |  |  |  |  |
| information technologies.   | Discussion, Literature analysis    |                      |  |  |  |  |  |  |  |
| Students will be able to initiate innovative  | Case analysis (Case study), Group  | Group homework       |  |  |  |  |  |  |  |
| ideas and discuss, identify and evaluate  | work, Simulation (engineering,     |                      |  |  |  |  |  |  |  |
| logical and causal links between various  | technology or process simulation), |                      |  |  |  |  |  |  |  |
| economic sectors.   | Discussion                         |                      |  |  |  |  |  |  |  |

Students will develop communication,<br/>idea generation, problem-solving,<br/>argumentation, interpretation, critical<br/>thinking, analysis, evaluation, and team-<br/>building skills.Case analysis (Case study), Group<br/>work, Simulation (engineering,<br/>technology or process simulation),<br/>DiscussionGroup homework

|  | Contact hours |           |          |           |                 |            | Individual work: time and assignments |                 |  |
|--|---------------|-----------|----------|-----------|-----------------|------------|---------------------------------------|-----------------|--|
| Content  | Lectures      | Tutorials | Seminars | Workshops | Laboratory work | Internship | Contact hours, tota                   | Individual work | Tasks for individual<br>work   |
| 1. Presentation of the Ecoland system<br>model and operational objectives.<br>Creation of working groups. Creating<br>Team Activity. | 2             |           |          | 2         |                 |            | 4                                     | 2               | Preparation for<br>discussions,<br>preparation of group<br>homework, and<br>preparation for the<br>exam.   |
| 2. Analysis of the main methodological material, i.e. getting acquainted with the country's economic and social situation.           | 2             |           |          | 2         |                 |            | 4                                     | 10              | Preparation for<br>discussions,<br>preparation of group<br>homework, and<br>preparation for the<br>exam.   |
| 3. Ecoland's 10th Annual Financial<br>Indicator Analysis. Developing activity<br>strategy for individual groups.                     | 2             |           |          | 4         |                 |            | 6                                     | 7               | Preparation for<br>discussions,<br>preparation of group<br>homework, and<br>preparation for the<br>exam.   |
| 4. SEED (Committee on the Promotion of<br>Economic and Environmental<br>Development of the Country).                                 | 2             |           |          | 2         |                 |            | 4                                     | 2               | Preparation for<br>discussions,<br>preparation of group<br>homework, and<br>preparation for the<br>exam.   |
| 5. Election of the President of Parliament.<br>1st Ecoland Parliamentary Session.  |               |           | 2        |           |                 |            | 2                                     | 2               | Preparation for<br>discussions,<br>preparation of group<br>homework, and<br>preparation for the<br>exam.   |
| 6. Decision-making for the 11th year.  |               |           | 2        |           |                 |            | 2                                     | 10              | Preparation for<br>discussions,<br>preparation of group<br>homework, and<br>preparation for the<br>exam.<br>The work of the<br>activity groups<br>according to the<br>prepared task forms<br>in the<br>methodological<br>material: Gotsch,<br>Brunner, (2002);<br>Skunčikienė,<br>Rakickas (2006). |

|   | <del>,                                     </del> | ~ | 1 |      | • |    | <b>FD1</b> 1 0.1                                       |
|---|---|---|---|------|---|----|--|
| 7. Ecoland's 11th Annual Financial<br>Indicator Analysis.   |   | 2 |   |      | 2 | 2  | The work of the<br>activity groups<br>according to the |
|   |   |   |   |      |   |    | prepared task forms<br>in the                          |
|   |   |   |   |      |   |    | methodological   |
|   |   |   |   |      |   |    | material: Gotsch,<br>Brunner, (2002);                  |
|   |   |   |   |      |   |    | Skunčikienė,<br>Rakickas (2006).                       |
| 8. SEED (Committee on the Promotion of                      |   |   | 2 |      | 2 | 2  | The work of the  |
| Economic and Environmental Development).                    |   |   |   |      |   |    | activity groups<br>according to the                    |
|   |   |   |   |      |   |    | prepared task forms                                    |
|   |   |   |   |      |   |    | in the methodological                                  |
|   |   |   |   |      |   |    | material: Gotsch,<br>Brunner, (2002);                  |
|   |   |   |   |      |   |    | Skunčikienė,   |
| 9. 2nd Ecoland Parliamentary Session.                       | <u> </u>  | 2 |   |      | 2 | 2  | Rakickas (2006).<br>The work of the                    |
|   |   | - |   |      |   | -  | activity groups  |
|   |   |   |   |      |   |    | according to the prepared task forms                   |
|   |   |   |   |      |   |    | in the methodological                                  |
|   |   |   |   |      |   |    | material: Gotsch,                                      |
|   |   |   |   |      |   |    | Brunner, (2002);<br>Skunčikienė,                       |
| 10 D  |   | 2 |   | <br> | 2 | 10 | Rakickas (2006).                                       |
| 10. Decision-making for the 12th year.                      |   | 2 |   |      | 2 | 10 | The work of the activity groups                        |
|   |   |   |   |      |   |    | according to the prepared task forms                   |
|   |   |   |   |      |   |    | in the   |
|   |   |   |   |      |   |    | methodological material: Gotsch,                       |
|   |   |   |   |      |   |    | Brunner, (2002);<br>Skunčikienė,                       |
|   |   |   |   |      |   |    | Rakickas (2006).                                       |
| 11. Ecoland analysis of the 12th-year financial indicators. |   |   | 2 |      | 2 | 2  | The work of the activity groups                        |
|   |   |   |   |      |   |    | according to the                                       |
|   |   |   |   |      |   |    | prepared task forms in the                             |
|   |   |   |   |      |   |    | methodological material: Gotsch,                       |
|   |   |   |   |      |   |    | Brunner, (2002);                                       |
|   |   |   |   |      |   |    | Skunčikienė,<br>Rakickas (2006).                       |
| 12. SEED (Committee on the Promotion                        |   |   | 2 |      | 2 | 2  | The work of the  |
| of Economic and Environmental Development).                 |   |   |   |      |   |    | activity groups<br>according to the                    |
|   |   |   |   |      |   |    | prepared task forms in the                             |
|   |   |   |   |      |   |    | methodological   |
|   |   |   |   |      |   |    | material: Gotsch,<br>Brunner, (2002);                  |
|   |   |   |   |      |   |    | Skunčikienė,<br>Rakickas (2006).                       |
| 13. 3rd Ecoland Parliamentary Session.                      |   | 2 |   |      | 2 | 2  | The work of the  |
|   |   |   |   |      |   |    | activity groups<br>according to the                    |
|   |   |   |   |      |   |    | prepared task forms                                    |

|  | 1 | r – | 1 | 1 | , |       | 1  |   |
|--|---|-----|---|---|---|-------|----|---|
|  |   |     |   |   |   |       |    | in the                                  |
|  |   |     |   |   |   |       |    | methodological                          |
|  |   |     |   |   |   |       |    | material: Gotsch,                       |
|  |   |     |   |   |   |       |    | Brunner, (2002);                        |
|  |   |     |   |   |   |       |    | Skunčikienė,                            |
| 14 Decision and inc. for the 12th and  |   | 1   | 2 |   |   | 2     | 10 | Rakickas (2006).                        |
| 14. Decision-making for the 13th year. |   |     | 2 |   |   | 2     | 10 | The work of the                         |
|  |   |     |   |   |   |       |    | activity groups                         |
|  |   |     |   |   |   |       |    | according to the                        |
|  |   |     |   |   |   |       |    | prepared task forms                     |
|  |   |     |   |   |   |       |    | in the methodological                   |
|  |   |     |   |   |   |       |    | material: Gotsch,                       |
|  |   |     |   |   |   |       |    | Brunner, (2002);                        |
|  |   |     |   |   |   |       |    | Skunčikienė,                            |
|  |   |     |   |   |   |       |    | Rakickas (2006).                        |
| 15. Ecoland's 13th-year Financial      |   |     |   | 2 |   | 2     | 2  | The work of the                         |
| Indicator Analysis.                    |   |     |   | 2 |   | 2     | 2  | activity groups                         |
| indicator r mary 515.                  |   |     |   |   |   |       |    | according to the                        |
|  |   |     |   |   |   |       |    | prepared task forms                     |
|  |   |     |   |   |   |       |    | in the                                  |
|  |   |     |   |   |   |       |    | methodological                          |
|  |   |     |   |   |   |       |    | material: Gotsch,                       |
|  |   |     |   |   |   |       |    | Brunner, (2002);                        |
|  |   |     |   |   |   |       |    | Skunčikienė,                            |
|  |   |     |   |   |   |       |    | Rakickas (2006).                        |
| 16. SEED (Committee on the Promotion   |   |     |   | 2 |   | 2     | 2  | The work of the                         |
| of Economic and Environmental          |   |     |   |   |   |       |    | activity groups                         |
| Development).                          |   |     |   |   |   |       |    | according to the                        |
|  |   |     |   |   |   |       |    | prepared task forms                     |
|  |   |     |   |   |   |       |    | in the                                  |
|  |   |     |   |   |   |       |    | methodological                          |
|  |   |     |   |   |   |       |    | material: Gotsch,                       |
|  |   |     |   |   |   |       |    | Brunner, (2002);                        |
|  |   |     |   |   |   |       |    | Skunčikienė,                            |
|  |   |     |   |   |   |       |    | Rakickas (2006).                        |
| 17. 4th Ecoland Parliamentary session. |   | 1   | 2 |   |   | 3     | 2  | The work of the                         |
|  |   |     |   |   |   |       |    | activity groups                         |
|  |   |     |   |   |   |       |    | according to the                        |
|  |   |     |   |   |   |       |    | prepared task forms                     |
|  |   |     |   |   |   |       |    | in the                                  |
|  |   |     |   |   |   |       |    | methodological                          |
|  |   |     |   |   |   |       |    | material: Gotsch,                       |
|  |   |     |   |   |   |       |    | Brunner, (2002);                        |
|  |   |     |   |   |   |       |    | Skunčikienė,                            |
| 10 Decision and 11 C d 144             |   |     |   |   |   | <br>- | 10 | Rakickas (2006).                        |
| 18. Decision-making for the 14th year. |   |     | 2 |   |   | 2     | 10 | The work of the                         |
|  |   |     |   |   |   |       |    | activity groups                         |
|  |   |     |   |   |   |       |    | according to the                        |
|  |   |     |   |   |   |       |    | prepared task forms                     |
|  |   |     |   |   |   |       |    | in the                                  |
|  |   |     |   |   |   |       |    | methodological                          |
|  |   |     |   |   |   |       |    | material: Gotsch,<br>Brunner, (2002);   |
|  |   |     |   |   |   |       |    | Skunčikienė,                            |
|  |   |     |   |   |   |       |    | Rakickas (2006).                        |
| 19. Discussion of performance results. |   |     |   | 2 |   | 2     |    | Preparation for                         |
| 17. Discussion of performance results. |   |     |   | 2 |   | -     |    | discussions,                            |
|  |   |     |   |   |   |       |    | preparation of group                    |
|  |   |     |   |   |   |       |    | homework, and                           |
|  |   |     |   |   |   |       |    | preparation for the                     |
|  |   |     |   |   |   |       |    | exam.                                   |
| Exam                                   | 1 | 2   |   | 2 |   | <br>4 |    | Improvement of                          |
|  |   |     |   |   |   |       |    | group homework,                         |
| L                                      |   |     |   | i |   |       |    | 1 U 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |

|       |   |   |    |    |  |    |    | preparation of oral presentation |
|-------|---|---|----|----|--|----|----|----------------------------------|
| Total | 8 | 3 | 18 | 24 |  | 53 | 81 |                                  |

| Assessment strategy | Weight<br>% | Deadline                        | Assessment criteria   |
|---------------------|-------------|---------------------------------|---|
| Group homework      | 70          | Last week<br>of the<br>semester | Analysis of the activities of the represented group (Government, Company, Household) amounts to 60% of the final homework evaluation; presentation and defence of a group homework report amounts to 20% of the final assessment; student activity and initiative - 20% of the final evaluation $10-9$ points<br>Correctly performed analysis of the represented group (government, company, household); submitted reasoned and logical proposals for improving the situation.<br>The work demonstrates students' creativity and innovative thinking.<br>During the presentation, students speak fluently, do not use notes, and present essential results. The idea is clear and demonstrates the students' competence in consideration.<br>Students do not exceed the time limit and answer the questions asked.<br>The students actively participated in the discussions.<br>8-7 points<br>Correctly performed analysis of the activities of the represented group (government, company, household) but poorly substantiated proposals for improving the situation.<br>During the presentation, students speak fluently, occasionally use notes, and present essential results. The idea is clear by only partly demonstrates its competence in consideration. Failure to observe the specified time limit only partly answers the questions.<br>6-5 points<br>The students actively participated in the discussions.<br>6-5 points<br>The activities of the represented group (government, company, household) were analysed, but no proposals were made for improving the situation.<br>During the presentation, students constantly use notes, but the student cannot speak freely.<br>The student was passive during the discussion.<br>4-1 points<br>The activities of the represented from proposals were made for improving the situation.<br>During the presentation, students constantly use notes, but the student cannot speak freely.<br>The student was passive during the discussion.<br>4-1 points<br>The activities of the represented he notes, but the student was passive during the discussion.<br>4-1 points<br>The analysis does not meet this work's mini |
| Exam                | 30          | Exam<br>session                 | During the exam, 20 questions will be answered in writing;<br>questions are formulated from all subject topics.<br>Questions can be presented through tests, practical<br>situations, and statements. When answering the test<br>questions, one answer must be selected from the answers<br>provided (one answer choice is correct). When answering a   |

| given practical situation, it needs to be explained in detail,<br>logically, reasonably demonstrating knowledge and<br>perception, critical assessment, integration of knowledge and<br>from other scientific fields, based on factual, statistical   |
|---|
| <ul> <li>information.</li> <li>The correct or incorrect statement must be explained in answering questions in the form of statements.</li> <li>The value of each correct answer is 0.5 points. You must answer 10 questions out of 20 correctly to get a minimum score.</li> <li>The correct or incorrect statement must be explained in answering questions in the form of statements.</li> <li>The value of each correct answer is 0.5 points. Students must</li> </ul> |
| answer 10 questions out of 20 correctly to get a minimum score.   |

| Author (-s)               | Publishing<br>year | Title                               | Issue of a periodical or volume of a publication | Publishing house or<br>web link |  |  |  |  |  |  |
|---------------------------|--------------------|-------------------------------------|--|---------------------------------|--|--|--|--|--|--|
| Required reading          |                    |                                     |  |                                 |  |  |  |  |  |  |
| Gotsch, H., Brunner, H.J. | 2002               | ECOSYS / System                     |  |                                 |  |  |  |  |  |  |
|                           |                    | training: Ecology                   |  |                                 |  |  |  |  |  |  |
|                           |                    | and Economy.                        |  |                                 |  |  |  |  |  |  |
| Gilbert, N., Terrell, P.  | 2014               | Dimensions of social                | 8 th ed.   | Harlow: Pearson.                |  |  |  |  |  |  |
|                           |                    | welfare policy                      |  |                                 |  |  |  |  |  |  |
| Ummer, E. K.              | 2012               | Basic mathematics                   |  | London; New York,               |  |  |  |  |  |  |
|                           |                    | for economics,                      |  | NY: Routledg.                   |  |  |  |  |  |  |
|                           |                    | business and finance.               |  |                                 |  |  |  |  |  |  |
|                           |                    | Recommended rea                     | Iding  |                                 |  |  |  |  |  |  |
| Greenlaw, S.A.,           | 2017               | Principles of                       |  | https://openstax.org/d          |  |  |  |  |  |  |
| Macalester, T.            |                    | Macroeconomics                      |  | etails/books/principles         |  |  |  |  |  |  |
|                           |                    |                                     |  | -macroeconomics                 |  |  |  |  |  |  |
| Gruber, J.                | 2016               | Public finance and<br>Public Policy | 5 th edition                                     | Macmillan                       |  |  |  |  |  |  |