

| Semester | Course Uni.           | Course ID.     |               | Course name  | Credit   |
|----------|-----------------------|----------------|---------------|--|----------|
| 1        | <b>MURRAY</b>         | <b>AGR755</b>  | <b>Online</b> | <b>Soil Management</b>   | <b>3</b> |
| 1        | MATE                  |                |               | Applied Organic and Biochemistry   | 3        |
| 1        | MATE                  |                |               | Plant Physiology and Stress Biology  | 3        |
| 1        | MATE                  |                |               | Plant Ecology  | 3        |
| 1        | MATE                  |                |               | Plant Breeding and Biotechnology   | 6        |
| 1        | <b>MURRAY</b>         | <b>AGR751</b>  | <b>Online</b> | <b>Climate Change Impacts</b>  | <b>3</b> |
| 1        | <b>MATE or MURRAY</b> |                |               | <b>Optional Course</b>   | <b>3</b> |
| 1        | MATE                  |                |               | Thesis + Symposium (thesis presentation by Zoom or MS Teams)                       | 6        |
|          |                       |                |               |  | 30       |
| 2        | MATE                  |                |               | Integrated Crop Production I.  | 6        |
| 2        | MATE                  |                |               | Plant Protection I. (Weed Science)   | 3        |
| 2        | MATE                  |                |               | Plant Protection II. (Crop Pathology)  | 3        |
| 2        | MATE                  |                |               | Plant Protection III. (Crop Pests)   | 3        |
| 2        | <b>MURRAY</b>         | <b>AGR655</b>  | <b>Online</b> | <b>Advance Soil Fertility</b>  | <b>3</b> |
| 2        | <b>MURRAY</b>         | <b>AGR661</b>  | <b>Online</b> | <b>Sustainable Agriculture</b>   | <b>3</b> |
| 2        | <b>MATE or MURRAY</b> |                |               | <b>Optional Course</b>   | <b>3</b> |
| 2        | MATE                  |                |               | Thesis + Symposium (thesis presentation by Zoom or MS Teams)                       | 6        |
|          |                       |                |               |  | 30       |
| 3        | MATE                  |                |               | Integrated Crop Production II.   | 6        |
| 3        | MATE                  |                |               | Global Food Security and Nutritional Inequality                                    | 3        |
| 3        | MATE                  |                |               | International Agricultural Systems   | 3        |
| 3        | MATE                  |                |               | Experiment Planning and Evaluation in Crop Production                              | 3        |
| 3        | MATE                  |                |               | Digital Skills for Agriculture   | 3        |
| 3        | <b>MURRAY</b>         | <b>AGR 735</b> | <b>Online</b> | <b>Research Methodology</b>  | <b>3</b> |
| 3        | <b>MURRAY</b>         | <b>AGR666</b>  | <b>Online</b> | <b>Training and Presentation Development Strategies for Agricultural Audiences</b> | <b>3</b> |
| 3        | MATE                  |                |               | Thesis + Symposium (thesis presentation by Zoom or MS Teams)                       | 6        |
|          |                       |                |               |  | 30       |
| 4        | <b>MURRAY</b>         | <b>AGR 671</b> | <b>Online</b> | <b>Advanced Precision Agriculture</b>  | <b>3</b> |
| 4        | MATE                  |                |               | Plant Protection Strategies and Systems (IPM)                                      | 3        |
| 4        | MATE                  |                |               | Economy of Crop Production   | 3        |
| 4        | MATE                  |                |               | Innovation and Project Management  | 3        |
| 4        | MATE                  |                |               | Rural Development and Agricultural Policy  | 3        |
| 4        | MATE                  |                |               | Thesis Seminar and Defense   | 6        |
| 4        | MATE                  |                |               | Thesis + Symposium (thesis presentation by Zoom or MS Teams)                       | 6        |
| 4        | MATE or MURRAY        | <b>AGR700</b>  |               | <b>Research in Agriculture (summer course, optional USA field trip)</b>            | <b>3</b> |
|          |                       |                |               | Overall credit   | 120      |

Murray Program Requirements

| Thesis Requirements |  | Credit | Does the curr. contain it? | Equivalent  |
|---------------------|--|--------|----------------------------|---|
| Course ID.          | Course Name  |        |                            |   |
| AGR686              | Training and Presentation Development Strategies for Agricultural Audience | 3 yes  |                            | Murray Course   |
| AGR713              | Graduate Computer Applications   | 3 yes  |                            | Digital Skills for Agriculture                        |
| AGR720              | Experimental Design and Statistical Analysis                               | 3 yes  |                            | Experiment Planning and Evaluation in Crop Production |
| AGR722              | Graduate Capstone Seminar  | 1 yes  |                            | Thesis Seminar and Defense                            |
| AGR735              | <b>Research Methodology</b>  | 3 yes  |                            | <b>Murray Course</b>                                  |
| AGR798              | Thesis   | 3 yes  |                            | Thesis and Symposium                                  |
| AGR799              | Thesis   | 3 yes  |                            | Thesis and Symposium                                  |

  

| Non-thesis Requirements |  | Credit | Does the curr. contain it? | Equivalent  |
|-------------------------|--|--------|----------------------------|---|
| Course ID.              | Course Name  |        |                            |   |
| AGR686                  | Training and Presentation Development Strategies for Agricultural Audience | 3 yes  |                            | Murray Course   |
| AGR700                  | Research in Agriculture  | 3 yes  |                            | Research in Agriculture                               |
| AGR713                  | Graduate Computer Applications   | 3 yes  |                            | Digital Skills for Agriculture                        |
| AGR720                  | Experimental Design and Statistical Analysis                               | 3 yes  |                            | Experiment Planning and Evaluation in Crop Production |
| AGR722                  | Graduate Capstone Seminar  | 1 yes  |                            | Thesis Seminar and Defense                            |
| AGR735                  | <b>Research Methodology</b>  | 3 yes  |                            | <b>Murray Course</b>                                  |

  

| Sustainable Agriculture Concentration |   | Credit | Does the curr. contain it? | Equivalent                                    |
|---------------------------------------|---|--------|----------------------------|---|
| Course ID.                            | Course Name   |        |                            |   |
| AGR627                                | Modern Issues in Agriculture Leadership                   | 3 no   |                            |   |
| AGR646                                | Integrated Pest Management                                | 3 yes  |                            | Plant Protection Strategies and Systems (IPM) |
| AGR648                                | Economics of Sustainable Agriculture and Food Production  | 3 yes  |                            | Economy of Crop Production                    |
| AGR655                                | <b>Advanced Soil Fertility</b>                            | 3 yes  |                            | <b>Murray Course</b>                          |
| AGR661                                | <b>Sustainable Agriculture</b>                            | 3 yes  |                            | <b>Murray Course</b>                          |
| AGR662                                | Principles of Agroecology                                 | 3 yes  |                            | Plant Ecology                                 |
| AGR671                                | <b>Advanced Precision Agriculture</b>                     | 3 yes  |                            | <b>Murray Course</b>                          |
| AGR696                                | Advanced Integrated Agriculture Communications Strategies | 3 no   |                            |   |
| AGR744                                | Graduate Cooperative Education                            | 3 no   |                            |   |
| AGR745                                | Biotechnology and Agriculture                             | 3 yes  |                            | Plant Breeding and Biotechnology              |
| AGR751                                | <b>Impacts of Climate Change</b>                          | 3 yes  |                            | <b>Murray Course</b>                          |
| AGR755                                | Soil Management   | 3 yes  |                            | <b>Murray Course</b>                          |

Total Murray credits (mandatory)

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The Optional Courses and Research in Agriculture courses may also be taken at Murray State University. In this case, students are, of course, responsible for the associated costs. Within the framework of the Research in Agriculture course, students have the opportunity to travel to the United States in the summer as part of a two-week intensive programme. The costs of travel, accommodation, and meals must be borne by the students.

| Hungarian mandatory elements (KKK) Educational and Outcome Requirements  |  |  |  |  |  |
|--|--|--|--|--|--|
| natural, agricultural, economic and human sciences providing the foundations of the programme [multidisciplinary natural science knowledge (the physical, chemical, biochemical and biological fields of environmental science); economic and human sciences (sectoral administration, sociology, management); scientific research methodology, analytical and communication skills (environmental and agricultural research methodology, scientific communication)] |  |  |  |  |  |
| 15–28 credits  |  |  |  |  |  |

| Semester | Course Uni. | Course ID. | Course Name   | Credit |
|----------|-------------|------------|---|--------|
| 1        | MATE        |            | Applied Organic and Biochemistry                      | 3      |
| 1        | MATE        |            | Plant Physiology and Stress Biology                   | 3      |
| 1        | MATE        |            | Plant Ecology   | 3      |
| 1        | MURRAY      | AGR751     | Online Climate Change Impacts                         | 3      |
| 3        | MATE        |            | Global Food Security and Nutritional Inequality       | 3      |
| 3        | MATE        |            | International Agricultural Systems                    | 3      |
| 3        | MATE        |            | Experiment Planning and Evaluation in Crop Production | 3      |

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| professional knowledge in crop production   |
| – (general and specific crop production, crop production technologies and their technical aspects, precision farming, maintenance of soil fertility and adaptive tillage, plant biotechnology, plant protection aspects of crop production, diseases and pests of field crops and the possibilities for their control, weed science and weed control, grassland management, food chain safety, sectoral administration and management, economic aspects of crop production) |
| 39–56 credits   |
|   |

| Semester | Course Uni. | Course ID. | Course Name                                    | Credit |
|----------|-------------|------------|--|--------|
| 1        | MURRAY      | AGR755     | Online Soil Management                         | 3      |
| 1        | MATE        |            | Plant Breeding and Biotechnology               | 6      |
| 2        | MATE        |            | Integrated Crop Production I.                  | 6      |
| 2        | MURRAY      | AGR655     | Online Advance Soil Fertility                  | 3      |
| 2        | MATE        |            | Plant Protection I. (Weed Science)             | 3      |
| 2        | MATE        |            | Plant Protection II. (Crop Pathology)          | 3      |
| 2        | MATE        |            | Plant Protection III. (Crop Pests)             | 3      |
| 3        | MATE        |            | Integrated Crop Production II.                 | 6      |
| 4        | MURRAY      | AGR 671    | Online Advanced Precision Agriculture (spring) | 3      |
| 4        | MATE        |            | Plant Protection Strategies and Systems (IPM)  | 3      |
| 4        | MATE        |            | Economy of Crop Production                     | 3      |

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| specific knowledge  |
| (variety registration and seed certification, fundamental issues and techniques of plant breeding and their implications for crop production, opportunities offered by transgenic plants and the risks associated with their use, quality assurance and quality assessment in organic and arable crop production, nutrient supply of arable crops and irrigated crop production, landscape-level and integrated crop production, cultivation of medicinal and spice plants, technical aspects of the mechanisation of crop production, land evaluation and regional/rural development, communication-, crop-production-, advisory- and research-methodological knowledge) 15–30 credits |
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| Semester | Course Uni.    | Course ID. | Course Name   | Credit |
|----------|----------------|------------|---|--------|
| 2        | MURRAY         | AGR661     | Online Sustainable Agriculture                              | 3      |
| 3        | MATE           |            | Digital Skills for Agriculture                              | 3      |
| 3        | MURRAY         | AGR 735    | Online Research Methodology (fall)                          | 3      |
| 3        | MURRAY         | AGR686     | Online Training and Presentation Development Strategies for | 3      |
| 4        | MATE           |            | Innovation and Project Management                           | 3      |
| 4        | MATE           |            | Rural Development and Agricultural Policy                   | 3      |
| 4        | MATE or MURRAY | AGR 700    | Research in Agriculture (field trip) (summer course) option | 3      |

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| other mandatory parts (thesis and optional subjects) |
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| Semester | Course Uni.    | Course ID. | Course Name                | Credit |
|----------|----------------|------------|----------------------------|--------|
| 1        | MATE or MURRAY |            | Optional Course            | 3      |
| 1        | MATE           |            | Thesis + Symposium         | 6      |
| 2        | MATE or MURRAY |            | Optional Course            | 3      |
| 2        | MATE           |            | Thesis + Symposium         | 6      |
| 3        | MATE           |            | Thesis + Symposium         | 6      |
| 4        | MATE           |            | Thesis Seminar and Defense | 6      |
| 4        | MATE           |            | Thesis + Symposium         | 6      |

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TOTAL ECTS CREDIT 120