**Bangladesh Agricultural University,Mymensingh**

**Department of Farm Structure and Environmental Engineering**

**Curriculum for the Doctor of Philosophy**

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| **April-September Semester** | | | | |
| **A:Compulsory courses (9 credits)** | | | | |
| **Course Code** | | **Course Title** | | **Course Credit** |
| FSEE 601 | | Storage Structure Engineering | | 3 |
| FSEE 603 | | Earth Reinforcement & Geosynthetic | | 3 |
| FSEE 605 | | Construction Demolition and Waste Management | | 3 |
| **B:Elective courses (2/4 credits)** | | | | |
| **Course Code** | | | **Course Title** | **Course Credit** |
| FSEE-507 | | | Concrete Technology | 2 |
| FSEE-509 | | | Agricultural Waste Management | 2 |
| FSEE-511 | | | Greenhouse Principles & Design | 2 |
| FSEE-513 | | | Research Methodology & Analysis | 2 |
| **October-March Semester** | | | | |
| **A: Compulsory courses (9 credits)** | | | | |
| **Course Code** | **Course Title** | | | **Course Credit** |
| FSEE 607 | Hydraulic Structure Design | | | 3 |
| FSEE 609 | Environmental Sustainability | | | 3 |
| FSEE 611 | Maintenance and Rehabilitation of Structures | | | 3 |
| **B:Elective courses ( 2/4 credits)** | | | | |
| **Course Code** | **Course Title** | | | **Course Credit** |
| FSEE-503 | Farmstead Planning and Design | | | 2 |
| FSEE 505 | Environmental Pollution and Control | | | 2 |
| FSEE-517 | Construction Management | | | 2 |
| FSEE-523 | Water Supply and Sanitation | | | 2 |
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|  | | | | |
| Seminar(Two) | | | | 4 (S/U) |
| Research Reports (End of First and Third Semester) | | | | 4 (S/U) |
| Research | | | | 23 (S/U) |
| Dissertation evaluation | | | | 15 (S/U) |
| Dissertation defense | | | | 6 (S/U) |
| **GRAND TOTAL** | | | | 76 |

**S/U where S=Satisfactory and U=Unsatisfactory** **Department of Farm Power and Machinery**

**Bangladesh Agricultural University**

**Mymensingh**

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| **April-September Semester** | | |
| **A: Compulsory Courses (9 Credits)** | |  |
| Course Code | Course Title | Credit |
| FPM 601 | Engineering Research Design and Report Writing | 3 |
| FPM 603 | Instrumentation and Control Systems | 3 |
| FPM 605 | Postharvest Engineering | 3 |
| **B: Elective Courses (2/4 Credits)** | |  |
| Course Code | Course Title | Credit |
| FPM 613 | GIS and GPS for Agricultural Mechanization | 2 |
| FPM 615 | Applied Computer Imaging and Sensing for Biosystems | 2 |
| FPM 617 | Generalized Linear Models with Application to Biosystems | 2 |
| FPM 619 | Modeling in Control Environment and Mechanization | 2 |
| FPM 621 | CNC Programming and Digital Manufacturing | 2 |
| FPM 623 | Agricultural Machinery Entrepreneurship Development | 2 |
| FPM 625 | Advanced Controlled Environment Agriculture | 2 |
| FPM 627 | Research Data Analysis Tools | 2 |
| FPM 629 | Fiber Processing and Biocomposites | 2 |
| FPM 631 | Biobased Energy | 2 |
| **October-March Semester** | | |
| **A: Compulsory Courses (9 Credits)** | |  |
| Course Code | Course Title | Credit |
| FPM 607 | Information Technology and Sensors in Agriculture | 3 |
| FPM 609 | Testing and Evaluation of Agricultural Machinery | 3 |
| FPM 611 | Energy systems in Agricultural Mechanization | 3 |
| **B: Elective Courses (2/4 Credits)** | |  |
| Course Code | Course Title | Credit |
| FPM 633 | Smart Farming Technology | 2 |
| FPM 635 | Automation in Agriculture | 2 |
| FPM 637 | Life Cycle Assessment of Agricultural Systems | 2 |
| FPM 639 | Transport Process in Biological and Environmental System | 2 |
| FPM 641 | Crops Harvesting Systems | 2 |
| FPM 643 | Advanced Storage Technology | 2 |
| FPM 645 | Conservation Agricultural Machinery | 2 |
| FPM 511 | Equipment and Implement Design | 2 |
| FPM 521 | Computation Fluid Dynamics | 2 |
| FPM 523 | Remote Sensing in Machinery Management | 2 |
| STAT 543 | Statistics for Engineers | 2 |
|  | | |
| Seminar (Two) | | 4 (S/U) |
| Research Reports (End of first and third year) | | 4 (S/U) |
| Research | | 23 (S/U) |
| Dissertation evaluation | | 15 (S/U) |
| Dissertation defense | | 6 (S/U) |
| **GRAND TOTAL** | | 76 |

**S/U where S=Satisfactory and U=Unsatisfactory**

Course Curricula and Syllabus for PhD Degree

**Department of Irrigation and Water Management**

Bangladesh Agricultural University

Mymensingh

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| **April – September Semester** | | | |
| **A: Compulsory Course (9 Credits)** | | | |
| Course Code | | Course Title | Credit |
| IWM 601 | | Research Methodology | 3 |
| IWM 607 | | Instrumentation, Sampling and Data Measurement | 3 |
| IWM 609 | | Climate Change and Adaptation | 3 |
| **B: Elective Course (2/4 credits)** | | | |
| Course Code | | Course Title | Credit |
| IWM 613 | | Engineering Project Planning and Management | 2 |
| IWM 617 | | Applied Groundwater Modelling | 2 |
| IWM 621 | | Agrohydrology and Climatology | 2 |
| IWM 625 | | Hydroinformatics | 2 |
| IWM 515 | | Soil−Water−Plant Relationship | 2 |
| **October– March Semester** | | | |
| **A: Compulsory Course (9 Credits)** | | | |
| Course Code | | Course Title | Credit |
| IWM 603 | | Geospatial and Environmental Analysis | 3 |
| IWM 605 | | Academic Writing and Communication | 3 |
| IWM 611 | | Hydrology and Water Conservation | 3 |
| **B: Elective Course (2/4 credits)** | | | |
| Course No. | Course Title | | Credit |
| IWM 615 | Data Analysis and Presentation | | 2 |
| IWM 619 | Micro Irrigation System Design | | 2 |
| IWM 623 | Water Policy, Planning and Governance | | 2 |
| IWM 537 | Flow and Transport Through Porous Media | | 2 |
| IWM 519 | Hydraulic Design | | 2 |
|  | | | |
| Seminar (Two) | | | 4 (S/U) |
| Research Reports (End of first and third year) | | | 4 (S/U) |
| Research | | | 23 (S/U) |
| Dissertation evaluation | | | 15 (S/U) |
| Dissertation defense | | | 6 (S/U) |
| **GRAND TOTAL** | | | 76 |

**S/U where S=Satisfactory and U=Unsatisfactory** **Course Curricula and Syllabus for PhD Degree**

**Department of Food Technology and Rural Industries**

**PhD in Food Technology**

**Bangladesh Agricultural University**

**Mymensingh**

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| **April – September Semester** | | | | | |
| **A:Compulsory Courses (9 Credits)** | | | | | |
| Course Code | | Course Title | Credit | | |
| FTRI 601 | | On-Farm Postharvest Processing and Management | 3 | | |
| FTRI 617 | | Advanced Quality Assessment Techniques | 3 | | |
| FTRI 619 | | Advanced Food Additives and Toxicology | 3 | | |
| **B:Elective Courses (4 Credits)** | | | | | |
| Course Code | | Course Title | Credit | | |
| FTRI 543 | | Technology of Food Products | 2 | | |
| FTRI 547 | | Food Microbiology | 2 | | |
| FTRI 517 | | Technology of Fruits and Vegetable Products | 2 | | |
| FTRI 523 | | Computation and Modeling in Food Industry | 2 | | |
| **October − March Semester** | | | | | |
| **A:Compulsory Courses (9 Credits)** | | | | | |
| Course Code | | Course Title | Credit | | |
| FTRI 609 | | Chemometrics in Food Research | 3 | | |
| FTRI 621 | | Advanced Food Biotechnology | 3 | | |
| FTRI 623 | | Advanced Thermal Processing in Food Industries | 3 | | |
| **B:Elective Course (2 Credits)** | | | | | |
| Course Code | | Course Title | Credit | | |
| FTRI 515 | | Technology of cereal products | 2 | | |
| FTRI 527 | | Technology of animal products | 2 | | |
|  | | | | | |
| Seminar (Two) | | |  | 4 (S/U) | |
| Research Reports (End of first and third year) | | |  | 4 (S/U) | |
| Research | | |  | 23 (S/U) | |
| Dissertation evaluation | | |  | 15 (S/U) | |
| Dissertation defense | | |  | 6 (S/U) | |
| **GRAND TOTAL** | | |  | 76 | |

**S/U where S=Satisfactory and U=Unsatisfactory**

**Course Curricula and Syllabus for PhD Degree**

**Department of Food Technology and Rural Industries**

**PhD in Food Engineering**

**Bangladesh Agricultural University**

**Mymensingh**

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| **April – September Semester** | | | | | |
| **A:Compulsory Courses (9 Credits)** | | | | | |
| Course Code | | Course Title | Credit | | |
| FTRI 601 | | On-Farm Postharvest Processing and Management | 3 | | |
| FTRI 603 | | Nutraceutical and Functional Food | 3 | | |
| FTRI 605 | | Advanced Food Fermentation and Enzymology | 3 | | |
| **B:Elective Courses (2 Credits)** | | | | | |
| Course Code | | Course Title | Credit | | |
| FTRI 523 | | Computation and Modeling in Food Industry | 2 | | |
| FTRI 509 | | Thermal Processing and Freezing of Food | 2 | | |
| **October − March Semester** | | | | | |
| **A:Compulsory Courses (9 Credits)** | | | | | |
| Course Code | | Course Title | Credit | | |
| FTRI 607 | | Food Waste and by-product Management | 3 | | |
| FTRI 609 | | Chemometrics in Food Research | 3 | | |
| FTRI 611 | | Food Allergies and Intolerances | 3 | | |
| **B:Elective Course (4 Credits)** | | | | | |
| Course Code | | Course Title | Credit | | |
| FTRI 613 | | Safety and Quality Assessment Techniques | 2 | | |
| FTRI 615 | | Applied Surface and Colloid Science | 2 | | |
| FTRI 515 | | Technology of Cereal Products | 2 | | |
|  | | | | | |
| Seminar (Two) | | |  | 4 (S/U) | |
| Research Reports (End of first and third year) | | |  | 4 (S/U) | |
| Research | | |  | 23 (S/U) | |
| Dissertation evaluation | | |  | 15 (S/U) | |
| Dissertation defense | | |  | 6 (S/U) | |
| **GRAND TOTAL** | | |  | 76 | |

**S/U where S=Satisfactory and U=Unsatisfactory**