



# The Bylaws of Undergraduate Programs

## Faculty of Engineering, Ain Shams University

---



September 2018

## Table of Contents

|                                                                                                        |    |
|--------------------------------------------------------------------------------------------------------|----|
| Part A: Introduction .....                                                                             | 7  |
| Vision and Mission of the Faculty of Engineering, Ain Shams University .....                           | 7  |
| What is new in this Curriculum? .....                                                                  | 7  |
| Article (1): Offered Programs.....                                                                     | 8  |
| Article (2): Agreements with other Universities .....                                                  | 9  |
| Article (3): Faculty Departments.....                                                                  | 9  |
| Article (4): Teacher Support and Development Center, Faculty of Engineering Ain Shams University ..... | 11 |
| Article (5): Program Steering Committee .....                                                          | 12 |
| Article (6): Education and Student Affairs Committee .....                                             | 12 |
| Article (7): Programs Administration Board.....                                                        | 13 |
| Article (8): Procedure to add/freeze Programs .....                                                    | 13 |
| Part B: Admission Regulations .....                                                                    | 14 |
| Article (9): Enrollment Requirements and Scholarship System .....                                      | 14 |
| Article (10): Placement Tests to newly admitted students.....                                          | 15 |
| Article (11): Tuition Fees for Inter-Disciplinary Programs .....                                       | 15 |
| Article (12): Enrollment to Programs.....                                                              | 15 |
| Article (13): Student Transfers from other Universities .....                                          | 16 |
| Part C: Study Regulations based on Credit Hour System .....                                            | 18 |
| Article (14): Programs' System.....                                                                    | 18 |
| Article (15): Study Levels.....                                                                        | 18 |
| Article (16): Academic Semesters and Course Registration .....                                         | 19 |
| Article (17): Program Study Duration .....                                                             | 19 |
| Article (18): Terms of Course Registration.....                                                        | 19 |
| Article (19): Degree Awarding Requirements .....                                                       | 20 |
| Article (20): Field Training.....                                                                      | 21 |
| Article (21): Adding and Dropping a course.....                                                        | 21 |
| Article (22): Withdrawal from a course .....                                                           | 21 |
| Article (23): Incomplete course .....                                                                  | 22 |
| Article (24): Student Evaluation.....                                                                  | 22 |
| Article (25): Course Grades .....                                                                      | 22 |
| Article (26): Course Repeating .....                                                                   | 23 |
| Article (27): Study Dismissal and Academic Probation .....                                             | 24 |
| Article (28): Calculation of the Cumulative Grade Point Average (GPA) .....                            | 24 |
| Article (29): Declaration of Honor.....                                                                | 24 |

|                                                                                           |     |
|-------------------------------------------------------------------------------------------|-----|
| Article (30): Minimum Number of Students for Course Opening.....                          | 25  |
| Article (31): Academic Advisor .....                                                      | 25  |
| Article (32): Appeals.....                                                                | 25  |
| Article (33): Student Transfer between Credit Hour System and Semester-Based System ..... | 25  |
| Article (34): General Provisions .....                                                    | 26  |
| Part D: Details of the Offered Programs .....                                             | 27  |
| University Requirements .....                                                             | 30  |
| Faculty Requirements .....                                                                | 31  |
| Discipline Requirements .....                                                             | 32  |
| Mechanical Engineering Requirements .....                                                 | 33  |
| Architectural Engineering Requirements.....                                               | 34  |
| Electrical Engineering Requirements .....                                                 | 35  |
| Civil Engineering Requirements .....                                                      | 36  |
| Program #1: Design and Production Engineering Program .....                               | 37  |
| Program #2: Mechanical Power Engineering Program .....                                    | 42  |
| Program #3: Automotive Engineering Program.....                                           | 49  |
| Program #4: Mechatronics Engineering Program.....                                         | 54  |
| Program #5: Architectural Engineering Program.....                                        | 58  |
| Program #6: Electrical Power and Machines Engineering Program .....                       | 67  |
| Program #7: Electronics and Communication Engineering Program.....                        | 71  |
| Program #8: Computer and Systems Engineering Program .....                                | 76  |
| Program #9: Structural Engineering Program .....                                          | 82  |
| Program #10: Water Engineering and Hydraulic Structures Program .....                     | 87  |
| Program #11: Utilities and Infrastructure Program .....                                   | 92  |
| Program #12: Materials Engineering Program .....                                          | 97  |
| Program #13: Manufacturing Engineering Program.....                                       | 103 |
| Program #14: Mechatronics Engineering and Automation Program .....                        | 109 |
| Program #15: Landscape Architecture Program.....                                          | 115 |
| Program #16: Environmental Architecture and Urbanism Program .....                        | 121 |
| Program #17: Housing and Urban Development Program .....                                  | 127 |
| Program #18: Communication Systems Engineering Program .....                              | 133 |
| Program #19: Energy and Renewable Energy Engineering Program .....                        | 139 |
| Program #20: Computer Engineering and Software Systems Program.....                       | 145 |
| Program #21: Building Engineering Program.....                                            | 151 |
| Program #22: Civil and Infrastructure Engineering Program.....                            | 157 |
| Part E: Course Pool.....                                                                  | 165 |

|                                                                                   |     |
|-----------------------------------------------------------------------------------|-----|
| E0. Courses not offered by any of the Faculty Departments.....                    | 166 |
| E0.1 University Requirements Compulsory Courses.....                              | 168 |
| E0.2 University Requirements Elective Courses with Tutorial.....                  | 171 |
| E0.3 University Requirements Elective Courses without Tutorial .....              | 173 |
| E0.4 Engineering Courses.....                                                     | 176 |
| E1. Courses offered by Engineering Physics and Mathematics Department (PHM) ..... | 177 |
| E1.1 Mathematics Courses.....                                                     | 180 |
| E1.2 Physics Courses .....                                                        | 190 |
| E1.3 Mechanics Courses.....                                                       | 195 |
| E1.4 Chemistry Courses .....                                                      | 198 |
| E2. Courses offered by Design and Production Engineering Department (MDP).....    | 201 |
| E2.0 Graduation Projects .....                                                    | 206 |
| E2.1 Design and Dynamics Courses .....                                            | 208 |
| E2.3 Industrial Engineering Courses .....                                         | 214 |
| E2.5 Materials Engineering Courses .....                                          | 224 |
| E2.8 Manufacturing Courses.....                                                   | 243 |
| E3. Courses offered by Mechanical Power Engineering Department (MEP).....         | 257 |
| E3.1 Energy Generation Courses.....                                               | 260 |
| E3.2 Energy Efficiency and Sustainability Courses.....                            | 267 |
| E3.3 Process and Equipment Design Courses .....                                   | 273 |
| E3.4 Environment, Services and Systems Courses.....                               | 277 |
| E3.5 Nuclear Energy Technology Courses.....                                       | 282 |
| E3.9 Graduation Projects .....                                                    | 285 |
| E4. Courses offered by Automotive Engineering Department (MEA) .....              | 286 |
| E4.1 Theory/Aerodynamics Courses .....                                            | 289 |
| E4.2 Design Courses .....                                                         | 293 |
| E4.3 Maintenance Courses .....                                                    | 295 |
| E4.4 Engine/Fuel Courses.....                                                     | 297 |
| E4.5 Control/Simulation Courses.....                                              | 300 |
| E4.6 Technology/Manufacturing Courses.....                                        | 302 |
| E4.9 Graduation Projects .....                                                    | 303 |
| E5. Courses offered by Mechatronics Engineering Department (MCT) .....            | 304 |
| E5.1 Automation and Control Courses.....                                          | 307 |
| E5.2 Embedded and Smart Systems Courses.....                                      | 311 |
| E5.3 Mechatronics Design and Manufacturing Courses .....                          | 312 |
| E5.4 Robotics and Mechatronics Applications Courses .....                         | 319 |