|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Identification** | | | **Subject** | Calculus II, Math 102, 3 credit | | | |
| **Department** | Mathematics | | | |
| **Program** | Undergraduate | | | |
| **Term** | Fall, 2017 | | | |
| **Instructor** | Jafarova Lala Nasir | | | |
| **E-mail:** | [Cafarov.90@bk.ru](mailto:Cafarov.90@bk.ru) | | | |
| **Phone:** | (+994 50) 324 15 56 | | | |
| **Classroom/hours** | Calculus 2B Tuesday 15.20, Tuesday 17.10 | | | |
| **Prerequisites** | | | Calculus I, Math 101 | | | | |
| **Language** | | | English | | | | |
| **Compulsory/Elective** | | | Required | | | | |
| **Required textbooks and course materials** | | | ***Core Textbooks:***   1. George Thomas, et al, Thomas’ Calculus: Early Transcendental, 12th edition, Addison-Wesley (2010), (<http://libgen.org/>)   ***Supplementary book***   1. James Stewart, Essential calculus. Early transcendentals, Second Edition, Brooks/Cole (2013) (http://libgen.org/) | | | | |
| **Course website** | | | This course combines traditional face-to-face classes. | | | | |
| **Course outline** | | | • The course concerns the study of integration methods, definite integrals and their applications to evaluation areas, volumes, arc length | | | | |
| **Course objectives** | | | The concepts of indefinite and definite integrals. Application of definite integrals to area and volume problems | | | | |
| **Learning outcomes** | | | By the end of the course the students should be able:   * To find indefinite and definite integrals of functions * To find area between different simple curves * To apply the fundamental theorem of calculus | | | | |
| **Teaching methods** | | | **Lecture** | | | x | |
| **Group discussion** | | | x | |
| **Experiential exercise** | | | x | |
| **Simulation** | | |  | |
| **Case analysis** | | |  | |
| **Course paper** | | | x | |
| **Others** | | |  | |
| **Evaluation** | | | **Methods** | | **Date/deadlines** | **Percentage (%)** | |
| **Midterm Exam** | |  | 30 | |
| **Case studies** | |  |  | |
| **Class Participation** | |  | 10 | |
| **Quizzes** | |  | 20(4 quizzes) | |
| **Project** | |  |  | |
| **Laboratory work** | |  |  | |
| **Final Exam** | |  | 40 | |
| **Others** | |  |  | |
| **Total** | |  | 100 | |
| **Policy** | | | * **Preparation for class**   The structure of this course makes your individual study and preparation outside the class extremely important. The lecture material will focus on the major points introduced in the text. Reading the assigned chapters and having some familiarity with them before class will greatly assist your understanding of the lecture. After the lecture, you should study your notes and work relevant problems and cases from the end of the chapter and sample exam questions.  Throughout the semester we will also have a large number of review sessions. These review sessions will take place during the regularly scheduled class periods.   * **Withdrawal (pass/fail)**   This course strictly follows grading policy of the School of Engineering and Applied Science. Thus, a student is normally expected to achieve a mark of at least 60% to pass. In case of failure, he/she will be required to repeat the course the following term or year.   * **Cheating/plagiarism**   Cheating or other plagiarism during the Quizzes, Mid-term and Final Examinations will lead to paper cancellation. In this case, the student will automatically get zero (0), without any considerations.   * **Professional behavior guidelines**   The students shall behave in the way to create favorable academic and professional environment during the class hours. Unauthorized discussions and unethical behavior are strictly prohibited.   * **Participation**   Every two non-participations of a student removes 1% out of his/her total  percentage.   * **Ethics**   Students should not arrive in late to class.  All cell phones must be turned off and stowed away before entering class.  Use of any electronic devices is not allowed in the classroom and violators will  be punished accordingly. | | | | |
| **Tentative Schedule** | | | | | | | |
| **Week** | **Date/Day**  **(tentative)** | **Topics** | | | | | **Textbook/ Assignments** |
| 1 | 15.09.16  15.09.16 | * Area and Estimating with Finite Sums * Sigma Notation and Limits of Finite Sums | | | | | **Ch. 5.1, 5.2/** not assigned |
| 2 | 22.09.16  22.09.16 | * The Definite Integral * Practice | | | | | **Ch. 5.3/** not assigned |
| 3 | 29.10.16  29.10.16 | * The Fundamental Theorem of Calculus * Indefinite Integrals and the Substitution Method | | | | | **Ch. 5.4, 5.5/** not assigned |
| 4 | 06.10.16  06.10.16 | * Substitution and Area Between Curves * Practice | | | | |  |
| 5 | 13.10.16  13.10.16 | * Substitution and Area Between Curves(continuation) * Volumes Using Cross-Sections | | | | | **Ch. 5.6**, **6.1 / Quiz (10 Pts)** |
| 6 | 20.10.16  20.10.16 | * Practice * Volumes Using Cylindrical Shells | | | | | **Ch. 6.2 /** not assigned |
| 7 | 27.10.16  27.10.16 | * Arc Length * Practice | | | | | **Ch. 6.3** / **Quiz (5 Pts)** |
| 8 | 03.11.16  03.11.16 | * Areas of Surfaces of Revolution * Work and Fluid Forces | | | | | **Ch. 6.4, 6.5/** not assigned |
|  |  | **Midterm Exam** | | | | |  |
| 9 | 10.11.16  10.11.16 | * Moments and Centers of Mass * Practice | | | | | **Ch. 6.6/** not assigned |
| 10 | 17.11.16  17.11.16 | * The Logarithm Defined as an Integral * Exponential Change and Separable Differential Equations | | | | | **Ch. 7.1, 7.2/** not assigned |
| 11 | 24.11.16  24.11.16 | * Hyperbolic Functions * Relative Rates of Growth | | | | | **Ch. 7.3, 7.4/** not assigned |
| 12 | 01.12.16  01.12.16 | * Practice * Integration by Parts | | | | | **Ch. 8.1/** not assigned |
| 13 | 08.12.16  08.12.16 | * Trigonometric Integrals * Trigonometric Substitutions | | | | | **Ch. 8.2, 8.3**  **/**  **Quiz (10 Pts)** |
| 14 | 15.12.16  15.12.16 | * Integration of Rational Functions by Partial Fractions * Integral Tables and Computer Algebra Systems | | | | | **Ch. 8.4, 8.5/**  not assigned |
| 15 | 22.12.16  22.12.16 | * Numerical Integration * Improper Integrals | | | | | **Ch. 8.6, 8.7/** not assigned |
|  | TBA | **Final Exam** | | | | |  |

This syllabus is a guide for the course and any modifications to it will be announced in advance.