Minor in Data Science and Engineering
(Applicable to the target students admitted in academic year 2020-21 and thereafter)*

Programme Learning Outcomes

Upon successful completion of the curriculum, students should be able to:

PLO(a) – apply knowledge of data science and engineering technologies to data science applications and use current techniques, skills, and tools necessary for data science and engineering practice with an understanding of the limitations

PLO(b) - analyze a data-centric problem, and identify and define the data science and engineering methodologies and technologies appropriate to its solution

PLO(c) - design, implement, and evaluate a data science solution, process, component, or programme to meet desired needs with appropriate consideration for public health and safety, social and environmental considerations

PLO(d) - function effectively on teams to accomplish a common goal in solving data science and engineering problems

PLO(e) - demonstrate an understanding of professional, ethical, legal, security and social issues and responsibilities in dealing with data science and engineering problems

PLO(f) - communicate effectively with a range of audiences, with the use of appropriate data visualization and presentation tools, in explaining data science processes and solutions

Programme Learning Outcomes (PLOs) mapped against University Education Aims (UEAs)

Curriculum Level Outcomes	University Educational Aims
Upon successful completion of the curriculum, students should be able to: **PLO(a)** – apply knowledge of data science and engineering technologies to data science applications and use current techniques, skills, and tools necessary for data science and engineering practice with an understanding of the limitations **PLO(b)** - analyze a data-centric problem, and identify and define the data science and engineering methodologies and technologies appropriate to its solution **PLO(c)** - design, implement, and evaluate a data science solution, process, component, or programme to meet desired needs with appropriate consideration for public health and safety, social and environmental considerations	**University Educational Aim 1.** • To enable our students to develop their capabilities in pursuit of academic/professional excellence, critical intellectual enquiry and life-long learning
Upon successful completion of the curriculum, students should be able to: **PLO(a)** – apply knowledge of data science and engineering technologies to data science applications and use current techniques, skills, and tools necessary for data science and engineering practice with an understanding of the limitations **PLO(b)** - analyze a data-centric problem, and identify and define the data science and engineering methodologies and technologies appropriate to its solution	**University Educational Aim 2.** • To enable our students to develop their capabilities in tackling novel situations and ill-defined problems
Upon successful completion of the curriculum, students should be able to: **PLO(e)** - demonstrate an understanding of professional, ethical, legal, security and social issues and responsibilities in dealing with data science and engineering problems	**University Educational Aim 3.** • To enable our students to develop their capabilities in critical self-reflection, greater understanding of others, and upholding personal and professional ethics
Upon successful completion of the curriculum, students should be able to: **PLO(e)** - demonstrate an understanding of professional, ethical, legal, security and social issues and responsibilities in dealing with data science and engineering problems	**University Educational Aim 4.** • To enable our students to develop their capabilities in

PLO(f) - communicate effectively with a range of audiences, with the use of appropriate data visualization and presentation tools, in explaining data science processes and solutions	intercultural communication and global citizenship
Upon successful completion of the curriculum, students should be able to: **PLO(d)** - function effectively on teams to accomplish a common goal in solving data science and engineering problems **PLO(f)** - communicate effectively with a range of audiences, with the use of appropriate data visualization and presentation tools, in explaining data science processes and solutions	**University Educational Aim 5.** • To enable our students to develop their capabilities in communication and collaboration
Upon successful completion of the curriculum, students should be able to: **PLO(c)** - design, implement, and evaluate a data science solution, process, component, or programme to meet desired needs with appropriate consideration for public health and safety, social and environmental considerations **PLO(d)** - function effectively on teams to accomplish a common goal in solving data science and engineering problems	**University Educational Aim 6.** • To enable our students to develop their capabilities in leadership and advocacy for the improvement of the human condition

*Note: Applicable to students of the Bachelor of Engineering (BEng) curricula admitted in the academic year 2020-21 and thereafter, with the exception of students of the BEng in Computer Engineering and BEng in Computer Science curricula, and other BEng students who have pursued a second Major or a Minor in Computer Science.