Predictive Analytics in Education in Student Success Training Course

Professional Development Training Course Outline

Category	Research and Data Analysis	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The future of education lies in the power of data. Predictive analytics in education is transforming the way educators identify at-risk students, improve academic outcomes, and personalize learning pathways. Predictive Analytics in Education for Student Success Training Course equips educators, administrators, and data professionals with essential skills to harness predictive models and machine learning algorithms to enhance student success. Designed for real-world application, this course blends advanced data science techniques with education-specific contexts, preparing participants to make data-driven decisions that positively impact retention, engagement, and academic performance.

With the rise of big data in the education sector, the demand for professionals skilled in predictive analytics has surged. This training course offers practical tools, hands-on case studies, and cutting-edge strategies for leveraging educational data. Participants will learn to develop dashboards, apply regression models, interpret behavioral indicators, and implement targeted interventions. Whether you're working in K-12, higher education, or ed-tech, this course positions you to lead transformative change in student outcomes using predictive analytics.

Programme Curriculum

Predictive Analytics in Education for Student Success Training Course

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Course Objectives

1. Understand the fundamentals of predictive analytics in education.
2. Apply data mining techniques to educational datasets.
3. Use machine learning algorithms to predict student performance.
4. Analyze behavioral indicators to identify at-risk students.
5. Implement early alert systems for student retention.
6. Develop and interpret predictive models.
7. Evaluate model accuracy and outcomes using validation techniques.
8. Visualize student data using dashboards and interactive tools.
9. Integrate predictive analytics into student advising systems.
10. Align predictive insights with institutional goals and metrics.
11. Apply ethical principles and privacy standards in student data use.
12. Conduct needs assessments to identify key success indicators.
13. Build institution-wide frameworks for continuous improvement.

Target Audiences

1. School and district administrators
2. Higher education leaders and deans
3. K-12 educators and instructional coaches
4. Data analysts in education
5. EdTech developers and product managers
6. Policy makers in education systems
7. Academic advisors and student support services
8. Educational researchers and PhD students

Course Duration: 10 days

Course Modules

Module 1: Introduction to Predictive Analytics in Education

- Define predictive analytics in an academic context
- Overview of tools and technologies
- Key challenges in applying analytics to education
- The evolution of data-driven education
- Overview of success indicators and benchmarks
- **Case Study: Using predictive analytics to reduce dropout rates in a public school district**

Module 2: Data Collection & Integration

- Understanding sources of student data
- Merging SIS, LMS, and CRM systems
- Data cleaning and preprocessing steps
- Handling missing values and outliers
- Data integration techniques for predictive models
- **Case Study: Building a unified data warehouse in a university**

Module 3: Exploratory Data Analysis

- Identifying patterns in student data
- Feature selection and transformation
- Use of histograms, heatmaps, and scatter plots
- Correlation analysis and dimensionality reduction
- Interpreting visual trends for insights
- **Case Study: Visualizing behavior patterns in online learning environments**

Module 4: Predictive Modeling Techniques

- Introduction to classification and regression models
- Logistic regression for binary outcomes
- Decision trees and random forests
- Neural networks and deep learning basics
- Selecting the right model based on data type
- **Case Study: Predicting GPA performance using multi-model comparison**

Module 5: Machine Learning in Education

- Overview of supervised vs. unsupervised learning
- Use of clustering for learning group segmentation
- Training vs. testing sets and cross-validation
- Avoiding overfitting in educational datasets
- AI-powered tutoring and adaptive learning
- **Case Study: ML-based recommendations in an adaptive learning platform**

Module 6: Identifying At-Risk Students

- Defining risk factors and dropout predictors
- Behavioral and academic indicators
- Real-time vs. historical data
- Early alert and intervention models
- Integrating alerts into student portals
- **Case Study: Identifying at-risk first-year students in a college system**

Module 7: Student Engagement & Motivation Metrics

- Tracking participation and time-on-task
- Measuring sentiment through feedback analysis
- Predicting disengagement patterns
- Dashboard creation for faculty alerts
- Engagement-based intervention strategies
- **Case Study: Boosting engagement in hybrid classrooms**

Module 8: Retention Analytics & Success Planning

- Data trends behind student attrition
- Linking academic and socio-emotional data
- Resource allocation and support strategies
- Designing targeted retention plans
- Measuring ROI of retention efforts
- **Case Study: Improving retention in community colleges**

Module 9: Visualizing Predictive Data

- Best practices in dashboard design

- Tools: Tableau, Power BI, Google Data Studio
- Creating actionable data visualizations
- Integrating visual tools into LMS
- Customizing dashboards for stakeholders
- **Case Study: Faculty dashboard for student tracking**

Module 10: Ethical and Legal Issues

- FERPA and data privacy regulations
- Ethical dilemmas in data use
- Bias in predictive algorithms
- Informed consent and student rights
- Promoting transparency in analytics
- **Case Study: Ethical review board for predictive model implementation**

Module 11: Institutional Readiness for Predictive Analytics

- Assessing current data maturity
- Building institutional support and culture
- Stakeholder communication and alignment
- Infrastructure and tech needs
- Creating an implementation roadmap
- **Case Study: University-wide rollout of predictive analytics framework**

Module 12: Personalizing Learning Through Predictive Analytics

- Linking analytics to curriculum design
- Personalizing assignments and assessments
- Learning path recommendations
- AI tutors and feedback loops
- Tracking student response to personalization
- **Case Study: Adaptive curriculum in STEM courses**

Module 13: Predictive Analytics for Student Advising

- Embedding insights into advising systems
- Real-time dashboards for advisors
- Risk score interpretation and action plans
- Integrating analytics into appointment systems
- Monitoring academic recovery plans
- **Case Study: Analytics-enabled advising for online students**

Module 14: ROI and Performance Metrics

- Measuring success of analytics implementation
- Academic KPIs and student outcomes
- Institutional performance benchmarking
- Financial and resource impact
- Stakeholder satisfaction and confidence
- **Case Study: ROI analysis of a district’s predictive analytics program**

Module 15: Capstone Project & Future Trends

- Develop a custom predictive analytics plan
- Review of emerging technologies in EdTech
- Cross-sector insights from healthcare, business

- Presentation and peer feedback
- Certification and next steps
- **Case Study: Final project presentation for district-wide analytics proposal**

Training Methodology

- Hands-on labs using real-world student data
- Collaborative group discussions and peer learning
- Step-by-step walkthroughs of predictive model creation
- Instructor-led sessions with live demos
- Capstone project with actionable institution-level solutions
- Assessment through quizzes, presentations, and case studies

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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