

## **1 Introduction**

### **1.1 Rationale**

1.1.1 The North Dakota University System Institutional Research (NDUS-IR) department serves the North Dakota University System Office (NDUSO), the State Board of Higher Education (SBHE), and various other stakeholders by providing relevant aggregated reporting of North Dakota University System (NDUS) student and employee data.

1.1.2 Additionally, NDUS-IR conducts analyses of individual level data to respond to stakeholder questions. Individual level data contains personally identifiable information (PII).

1.1.3 In some cases, questions arise that ask NDUS-IR to use individual level data to determine past outcomes, predict future outcomes or identify intervention targets. These are respectively referred to as descriptive analytics, predictive analytics, and prescriptive analytics.

1.1.4 There is a need to establish guiding principles to provide a clear framework for the ethical application of analytics within the NDUS-IR department.

**1.2 Problem statement: Access to both individual level data and analytics tools provide new opportunities for data analyses in NDUS-IR. As a reporting body for the university system, NDUS-IR must have a clear code defining expectations and limitations for the use of analytics for student and/or employee data analyses.**

1.2.1 All data captured as a result of NDUS interaction with students and employees has the potential to be used for analytics. Data should, however, only be used for analytics whetta 1 Tf -0.082 Tc 6.4672 Tw 7.19t.i o228 Td [n228 T4.9 (f.)-6.8 ( (a)10.5 013



subjects.

- 1.2.5 Analytics can be applied to individual students or employees, to defined groups of individuals, and to whole cohorts of individuals. This code and inclusive principles shall apply in all cases.
- 1.2.6 As NDUS-IR is a department whose main function is reporting rather than academic research, the most accurate and complete reporting results from the inclusion of data from all relevant students or employees, thus precluding the ability for individuals to opt out.
- 1.2.7 NDUS-IR recognizes that the use of individual level data in new ways will necessarily impact current practice. As such, several existing policies relating and re30[(i)2.6 s r6Tj EM(4.9 (r)- Tc 0.013 Tw -17.489 -2.2or)4.9 ( i)2.6 (ndi)2.6a8.9 (i)2.6 the



such as EMPLID, name, address, etc.

- 1.3.9 Predictive Analytics uses statistical models, machine learning, and forecasts techniques to understand the future and answer: “What could happen?”
- 1.3.10 Prescriptive Analytics uses optimization and simulation algorithms and/or machine learning to advise on possible outcomes and answer: “What should we do?”
- 1.3.11 Out of scope is a term used to encompass data elements that are available, but not acceptable to be used in analytic research due to their sensitive nature.
- 1.3.12 Sensitive data defines personal data that is protected from unwarranted disclosure and/or to which access should be safeguarded. It may or may not be collected by NDUS and the NDUS institutions, and would include demographics such as gender, religion, and political affiliation. Sensitive data are defined more clearly in the **Out of Scope** section of this document, and their use is subject to limitations in analytics.
- 1.3.13 Students are individuals registered into credit bearing coursework at any institution within the NDUS. This does not include enquirers or informal learners.

## **2 Scope**

### **2.1 In scope**

- 2.1.1 In the adoption of this analytics code, the NDUS-IR establishes that certain data elements are within the scope of NDUS System Office analytic research.
- 2.1.2 In scope analytic research will be conducted only at the direction of the NDUS Director of Institutional Research, and be that which has been:
  - x requested by a system office staff, NDUS institution administrator or program director, or CTS Office of the CIO,
  - x requested by another state agency, legislative council or member, or governor’s office and approved by NDUS senior staff.
- 2.1.3 Data deemed to be in scope of analytic research include categories of data captured by the university system as part of its interaction with students and employees and potentially available as individual or combined data sets for use in analytics:
  - x student demographic information provided by the student at registration or after their admission into the university system,











## 4.2



- x Analytics generate insight that may allow researchers to determine possibilities of alternate outcomes
- x Descriptive and Predictive Analytics reflect on what happened in the past, and not what will happen in the future, only what has the probability to happen
- x Individuals do not always follow predicted patterns of behavior
- x Individuals should not be stereotyped by any form of analytics

#### **4.5 Principle 5: NDUS-IR will be transparent in their conduct of research**

- x NDUS-IR will communicate to relevant stakeholders what analytic research is being conducted and for what purpose
- x NDUS-IR will maintain an updated policy for the use of data analytics for research
- x NDUS-IR will respond to inquiries regarding analytic research currently being conducted, conducted in the past, and planned for the future

### **5 Implementation & Review**

**5.1** This code is implemented as of date indicated below and remains in effect until future revision by NDUS-IR or superseded by adopted NDUS SBHE policy.

**5.2** This code is modeled after **The Open University** document *Policy of Ethical use of Student Data for Learning Analytics*, which is released under the following Creative Commons license:  
<https://creativecommons.org/licenses/by-nc-sa/4.0/>

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