**Purdue Northwest Curriculum Document Coversheet**

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| **Document No:**(According to [Instruction](http://faculty.pnw.edu/blog/curriculum-document-approval-procedures/)s[[1]](#footnote-1)) | CES 18-15 NEW PROG STAT | **Approval by Faculty Senate:** (Leave Blank) | 3/8/2019 |
| **Proposed Effective Date**  | Fall 2019 | **Date Reviewed by Senate Curriculum****Committee:** (Leave blank) | 2/22/2019 |
| **Submitting Department:**(Name of both Dept & College/School ) | MSCS/CES | **Name(s) of Library Staff Consulted:** (NA if not required) | N/A |
| **Date Reviewed by Department**  | 11/16/18 |  |  |
| **Submission Date:**(Date sent to College/School Curr Comm after Dept Review) | 11/20/18 | **Will New Library****Resources Used?** | [ ]  **Yes**[x]  **No** Double-click to check Yes / No. |
| **Date Reviewed by College/School Curriculum Committee**  | 12/14/18 | **Form 40 Needed?**(Double-click one box.)Registrar will complete Form 40 **after** Senate approval of document. | [x]  **Yes** New courses or any course change, check **YES**[ ]  **No** For **all other** curriculum matters, check **NO**. |
| **Contact Person(s):**(Name & Title) | Dr. Jonathan Kuhn, Associate Professor of Statistics; Dr. Catherine Murphy, Head, MSCS |  |  |

Unless marked “Leave blank” all parts of this form must be filled in **before** sending to Secretary of the Faculty Senate.

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| **Task (check all that apply and fill out sections appropriate for each change).** [ ]  Program/Concentration Change or New Program/Concentration Proposal: Complete Section I, III, & IV[ ]  Minor Change or New Minor Proposal: Complete Section I (delete sections III & IV)[ ]  Certificate Change or New Certificate Proposal: Complete Section I (delete sections III & IV)[x]  Course Change or New Course Proposal: Complete Section II (delete sections III & IV) |
| **Program name**.Bachelor of Science in Applied Statistics |
| **Degree name(s).** (If applicable.)Bachelor of Science in Applied Statistics |

**Section II: This section is for changes in courses only**

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| **Subject.** Applied Multivariate Analysis (new course): techniques seek to use data to understand the relationships between multiple variables.  |
| **Justification.** Applied multivariate analysis is used in for example artificial neural networks, multivariate psychological analysis, and multivariate social analysis. This course is one of the three second-level advanced applied statistics in the statistics program.  |

Use the **Current** and **Proposed** spaces below for course changes only. Otherwise, mark “N/A”

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| **Current:** (Course changes: include entire present catalog information. Leave blank if new course)N/A | **Proposed:** (Course changes: include entire new catalog information.)

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| **STAT 46800 – Applied Multivariate Analysis** Credit Hours: 3.00. A detailed exposition of some of the more commonly used multivariate statistical techniques, including the geometric intuition underlying their use. Familiarity with the notation and the basic operations of matrix algebra, and with the standard univariate statistical procedures is assumed. Topics include dimension reduction techniques (principal components, factor analysis, and canonical correlation), clustering, classification, neural network, and structural equation models. Typically offered Fall, Spring. **Levels:** Graduate, Professional, Undergraduate **Schedule Types:** classroom, hybrid, online **Prerequisites: minimum grade of C from both STAT 34600, STAT 43100** |

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| **Is this course also:** | [ ]  **General Education** | **Currently Designated ExL (see** [**instructions[[2]](#footnote-2)**](http://faculty.pnw.edu/blog/curriculum-document-approval-procedures/)**)** [ ]  |

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| **Course Objectives / Learning Outcomes.** (New courses only. List main outcomes. If lengthy, attach separate page.)1. Distinguish principal components and factor analysis designs
2. Analyze designs to study variance
3. Identify the appropriate design for a dataset
4. Clearly communicate results
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| **Impact on Students.** (State “N/A” if proposal will not greatly affect students.) |
| **Impact on University Resources.** (State “N/A” if proposal will not require new resources, faculty or funds.) |
| **Impact on other Academic Units.** (State “N/A” if proposal will not affect other units.) (Include name of person in affected area this was discussed with.) |

(Boxes will expand and spill over onto next page to accommodate your typing.)

1. <http://faculty.pnw.edu/blog/curriculum-document-approval-procedures/> [↑](#footnote-ref-1)
2. <http://faculty.pnw.edu/blog/curriculum-document-approval-procedures/> [↑](#footnote-ref-2)