**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 18-11 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** **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. | **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)  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.** Probability and Statistics II (new course): This is a calculus-based multivariate introductory course in probability and statistics. |
| **Justification.** This course gives students a deeper appreciation of the concepts of the statistical topics. It allows them to proceed to the more advanced topics in statistics; in particular, the multivariate nature of statistics which involves n-dimensional samples. This is the second of a two-course sequence, where the first course in the sequence is STAT 34500 Statistics (a course currently taught as part of the statistics minor). Analytical Statistician or Mathematical Statistician are examples of positions which would use this material. This course, along with Design of Experiments, is the last of the first-level introductory courses, before entering the 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.)  **STAT 34600 – Probability and Statistics II**  Credit Hours: 3.00. Topics include review of univariate probability distributions, multivariate distributions, statistical inference, and properties of point estimators, nonparametric statistics, and elementary Bayesian Statistics. A statistical computer package will be used. Typically offered Fall, Spring.  **Levels:** Graduate, Professional, Undergraduate **Schedule Types:** classroom, hybrid, online **Prerequisites: minimum grade of C from STAT 34500** |
| **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. Understand univariate and multivariate distributions 2. Study parameter estimation procedures and their properties 3. Distinguish between parametric and nonparametric test procedures 4. Understand the elements of Bayesian statistics |
| **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)