STAT 489: Research Methods and Communications in Statistics  
MATH 480: Research Methods and Communications in Mathematics

**Course Structure**:

* Credit hours: 2 semester hours
* Offering: Spring semester
* Prerequisites: CMST191 and Calc Sequence (MATH 212, 213, and 312), Linear Algebra and Foundations of Mathematics (MATH 242, 327) and STAT 210/303/305 OR permission of instructor
* Grading: Offered for grade only
* Meets: Twice a week for 1 hour, but also with the requirement of attending any seminar or colloquia talk given in the Department of Mathematics and Statistics

**Learning Objectives**:

* Introduce students to the research/capstone requirement for degrees in mathematics or statistics. An anticipated outcome would be for students to have identified their project before the completion of this course.
* Teach students the necessary skills for writing and presenting technical research in the area of mathematics or statistics.
* Communicate and develop the skills necessary to succeed as a professional in the area of mathematic s and statistics.

**Additional details provided for course rationale:** A student would most likely take this course in the spring of their third year (but may take it earlier if they are prepared to do so). One outcome of this course would be an agreement between the student and a faculty member (preferably not the instructor of this course) to being a student research project during the following semester. In the fall after completing this course, the student would complete their student research project with their research advisor. After completing their research, the student would be required to complete a presentation, poster, and paper on their research.   
  
Note: If a student completes a summer research experience, they may have the option of continuing that work with a WSU faculty member or using that existing body of research to complete the Department of Mathematics and Statistics capstone requirement.

**Assessment Methods:**

Your course grade will be determined by your performance in completing the assigned work. All graded material will be evaluated using the following scale.

* Exceptional Performance
* Satisfactory Performance
* Substandard Performance
* Incomplete / Missing

Assigned work will receive comments by myself and/or your peers; however, the performance evaluation will be based on only the instructor’s review. Work that is determined to be substandard or incomplete/missing may be revised within one week and resubmitted. For resubmitted work, the maximum performance mark will be satisfactory, that is, you cannot achieve exceptional performance on work that has been resubmitted.

**Grades:**

Your final grade will be determined by the following.

|  |  |
| --- | --- |
| Grade | Threshold |
| A | Most assigned work received exceptional performance marks |
| B | Most assigned work received a balance of exceptional and satisfactory marks |
| C | Most assigned work received satisfactory performance marks |
| D | Most assigned work received substandard performance marks with a limited number of incomplete or missing performance marks |
| F | Most assigned work received incomplete or missing performance marks |

A student may request an update regarding their performance at any time during the semester.

**Additional Course Details**

* I encourage you to use a 3-ring binder for this class because class material will be a combination of note taking, handouts, and lots of computer output.
* Attendance in mandatory.  If you miss class, it is your responsibility to get the material and get yourself caught up.
* If necessary, I reserve the right to make policy changes for this course as the semester progresses.

**Course Content**

* General Capstone Information
  + Introduce expectations for capstone experience
  + Have several faculty discuss research areas and/or other capstone experience opportunities to students
  + Encourage / assist in coordination of REUs, Internships, or other summer opportunities
* Literature Reviews
  + Accessing online article databases and utilizing library resources
  + Reading published undergraduate research
  + Reading prior WSU completed capstone/research papers
* Presentation Skills
  + Observe and critique seminar and colloquia presentations using well-established rubrics
  + Observe and critique student presentations
  + Observe and critique student posters
  + Presenting on assigned topics
* Writing Skills
  + Critiquing writing samples using well-established rubrics
  + Learn how to write an abstract
  + Organization of content / outline construction
  + Writing appropriate conclusions for completed work

**Academic Integrity Policy**  
WSU Undergraduate Catalog contains a full listing of policies and procedures pertaining WSU’s Academic Integrity Policy. Note that both copying another student’s work and allowing someone to copy your work are clear violations of our academic integrity policy. If there is reasonable evidence of copying another individual’s or group’s work, it will be construed as an act of plagiarism. The first occurrence of cheating will result in a score of zero on that specific homework assignment or exam portion; the second occurrence may result in failure of the course.