Based on ABET ETAC Student Learning Outcomes

1. **Course Number and Name:**
   CSET 4100 Server-Side Programming
2. **Credits and Contact hours:**
   Credits: 3 hours, Contact: 3 lecture hours
3. **Instructor's or course coordinator's name:**
   Hong Wang
4. **Text book, title, author, and year:**
   PHP for the Web: Visual Quickstart Guide, 5th Edition, Larry Ullman, 2016
   Murach's Java Servlets and JSP, 3rd Edition, Loel Murach and Andrea Steelman, 2014
   a. **Other supplemental materials:**
      None
5. **Specific Course Information:**
   a. **Brief description of the content of the course (catalog description):**
      This three semester hour course covers Common Gateway Interface (CGI) programming on the internet using the most popular scripting languages (PHP, perl, Java Servlets, ASP, etc.). Topics include server side programs and searching.
   b. **Pre-requisites, or co-requisites:**
      CSET 3150
6. **Specific goals for the course:**
   a. **Specific outcomes of instruction:**
      1. Learn the basics of the PHP programming language and how to write programs using PHP.
      2. Learn the basics of Java Servlets and JSP for implementing web applications written in Java.
      3. Learn about the Model-View-Controller (MVC) software paradigm through the use of Java Servlets and JSP.
      4. Learn about the design and architecture of modern web applications including large-scale distributed applications.
      5. Learn about the use of technologies such as SOAP and REST to implement web services for distributed web applications1.
      6. Apply the concepts learned in this course to the development of client-server applications that are Internet and/or World Wide Web based
   b. **Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course: 1, 2, 4**
   1. An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly defined engineering problems appropriate to the discipline;
   2. An ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline design,

4. An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes

7. Brief list of topics to be covered:

1. PHP variables
2. HTML Forms and PHP
3. Using Numbers
4. Using Strings
5. Control Structures
6. Using Arrays
7. Creating functions
8. Files and Directories
9. Information models
10. Cookies and Sessions
11. Creating Web Applications
12. Control Structures
13. Objects, Properties Methods and Events
14. Hypertext and Hypermedia
15. Web application architectures for high scalability
16. Fault Tolerance in Web Applications
17. Distributed Data and Applications
18. Non Database information storage and retrieval systems