Guidelines for Developers and Instructors

This document outlines the responsibilities of the DEVELOPER and the INSTRUCTOR of an online course for the International Program in Survey and Data Science (IPSDS).

A.   Course Development

A1. Course Outline and Syllabus

The Developer will create and record the course for the number of credit hours specified below which translates to a specific number of complete video lectures.

- 1 credit: 4 lectures
- 2 credits: 8 lectures
- 3 credits: 11 or 12 lectures

The Developer will create a detailed course plan and have the proposed course outline reviewed by IPSDS. Using the template provided by JPSM, the Developer will then create a course syllabus that will be provided to students before the course starts.

A2. Video Recording

Each complete lecture should contain **from 1.25 to 2 hours** of recorded presentation. A single lecture cannot exceed 2.5 hours and the average length of time across all lectures should not be less than 1.5 hours. Each complete lecture should be divided into multiple shorter video segments between 5 and 20 minutes long. Videos can be recorded in a JPSM/IPSDS studio or with approved recording equipment. If a Developer decides to record videos outside of the JPSM/IPSDS studios, JPSM will provide the Developer with a detailed guide on how to record videos.

If creating a 3-credit course, the Developer could divide the material into 11 or 12 video recorded lectures. If the Developer chooses to record only 11 lecture videos, the course outline should still accommodate 12 weeks of the material. Valid reasons for 11 weeks of recorded lecture could be: the 12th week is used for a proctored exam; a week is designated for student or group presentations.

A3. Supplementary Material

The following types of material should be developed in addition to the lectures:

- Lecture slides that match the video recorded material
- Required and recommended readings that support the lecture material
- Materials that allow for the evaluation of student performance. These may include: homework assignments, quizzes, projects, papers, and exams.
- Supplemental materials in addition to required and recommended readings in the form of short video lectures or documents providing additional or current information on the topic (not mandatory).

Lecture Slides:
The video lectures should include slides that are followed during the lecture dialog. These slides should be visible during the lecture either the entire time or at appropriate points during the lecture. The same slides used during the video lecture will be delivered as a separate file (PDF, PPT, etc.) as part of the course materials.

Readings:
For each lecture, the Developer should suggest readings from textbooks, journals, or other resources. On the course outline and the syllabus, readings should be classified as required readings or recommended. If all or most of a textbook is used as required reading in the course, students will be asked to purchase the book. For legal reasons, we can currently only use literature freely available on the Internet in our courses. Please list only such readings and provide the appropriate links.

Homework:
The Developer will create a minimum of two homework assignments per credit hour (e.g., the Developer of a 3-credit course will deliver a minimum of 6 homework assignments). The level of comprehension should be at a Master's level, for all students.

For some courses, homework materials can be administered using the quiz function in Canvas and this is encouraged. This feature removes the need for students to download documents and upload the completed version as well as the instructor having to do the same to grade. Quizzes within Canvas can be completely or partially auto-graded, depending on how the questions are designed and any questions requiring manual grading can be done within the Canvas course website. Developers should keep this in mind and design questions that can be automatically graded (multiple choice, True/False, matching, etc.) whenever possible.

Exam or Final Evaluation:
The course must include an assessment that occurs at the end of the course and incorporates all/most of the material covered. This could be a final exam, individual or group project, or paper.

Final exams are most applicable to courses with at least 8 weeks of lecture. If issuing a final exam, it should require at least one hour of time to complete. A proctored exam must be administered during the last week of class, at the designated class time. If an exam is not proctored, it can be offered during the week that follows the last class meeting but the students must be able to access and complete the exam at any point during that week.

Other Materials:

Other supplementary materials are encouraged (and will be part of the ongoing development of the course following the trial period). Other supplementary materials could include: video recorded interviews with key people working in the field, media found online (videos, blogs,, etc.), extra credit assignments, supplemental training materials for students needing extra help, and relevant examples from industry such as policy manuals, RFPs, reports, etc.

A4. Delivery of Product

The Developer is expected to deliver the completed course including videos and supplementary materials 90 days before the course starts.

Course materials are covered under the Intellectual Property Agreement (separate from this agreement).

A5. Updates to Videos and Supplemental Materials

Developers are expected to review and update videos and supplemental materials after the trial period (explained below) but before rerunning the course again for IPSDS. The updates should be based on student feedback and new developments in the field. In addition, Developers who continue as instructors beyond the trial period are expected to continuously update material so that it is timely and relevant.

B. Course Instruction

B1. Title and Affiliation
If paid by JPSM/UMD the Instructor will be granted the title of "Adjunct Assistant Professor." The affiliation with the University of Maryland and JPSM is valid for the term(s) that the course is provided. Otherwise, we propose the following: "Lecturer and faculty member at the International Program in Survey and Data Science (University of Mannheim/University of Maryland)"

B2. Student Enrollment and Administration
IPSDS will process student registrations for the course and handle general inquiries from students about the program. If the Course carries prerequisites, the Instructor may need to make decisions about the suitability of the course for interested students and grant permissions.

IPSDS will announce the course on their website. The Instructor is highly encouraged to advertise for the course among potential students outside the Universities of Maryland and Mannheim (e.g., on his/her own website, on special interest mailing lists, etc.). This is particularly important to meet minimum enrollment numbers (see section C7 Course Cancellation below). Each section of the course will be capped at 15 students, with additional students waitlisted and admitted only at the Instructor's discretion.

IPSDS will provide a "Welcome" template to the Instructor to use to communicate with registered students about logging into the course website and the online meetings for the first time. The Instructor will follow this template to send an email to registered students 1 week before the course begins.

B3. Course Website
All materials for the course must be made available on the course website in the learning management system Canvas. IPSDS will upload the video lectures and any supplemental material in document form made available by the Developer and Instructor at least 3 weeks before the start of the course, providing a structure for the website. IPSDS will provide the Instructor with instructions for accessing and manipulating the course website. The Instructor should upload additional materials as needed or available. It is the Instructor's responsibility to guarantee that all materials are available on the course site on the first day of the course.

The Instructor is encouraged to record an introductory video to be watched before the first lecture (at week 0). This video should introduce the Instructor and lay out expectations about the class. The up-to-date course syllabus must also appear in course website prior to the first unit at week 0. An accurate syllabus must be uploaded 2 weeks before the course begins. The instructor will provide students with access to week 0 and week 1/ unit 1 materials exactly 1 week before the first class meeting. All other weeks should be hidden from the student view

until a week before the applicable class meeting (e.g. unit 3 materials will be made visible immediately after the class meeting to discuss unit 2).

Instructors are strongly encouraged to program all assignments and exams within the Canvas course website. This allows for auto grading and ease of feedback. If this is not possible, assignments should be recorded in Word or PDF documents and uploaded onto the website.

B4. Weekly Online Meetings

Schedule

The Instructor will conduct live weekly online meetings of the course for each section. The course will have two sections, each at a set day of the week and time.

- Each meeting must last a minimum of 50 minutes and not exceed 1 hour. Instructors can opt to stay in the video conference after class to answer individual questions (similar to office hours).

All class meetings must fall within the specified term (i.e., fall, winter, spring or summer) and should be completed within the number of calendar weeks specified below. The course does not need to be offered in contiguous weeks but could be.

- For a 1-credit course, all class meetings should be completed within 6 calendar weeks.
- For a 2-credit course, all class meetings should be completed within 10 calendar weeks.
- For a 3-credit course, all class meetings should be completed within the 13 calendar weeks of the term. There is flexibility to have a break of one week if desired.

Conducting weekly meetings

The Instructor must be available for all meeting dates of the course and conduct the online meetings in person. If the course meets 8 or more times, the Instructor may allow a guest discussant for one class session. The Instructor must have a wired Internet connection plus a webcam and headset with a separate microphone in order to conduct the online sessions.

Even if the Instructor is travelling, we expect the class meetings to be held without disruption to the schedule. If an instructor finds that he/she cannot conduct the weekly online meeting, a substitute instructor should be found. If the Instructor invites guest lecturers, these guests will not be compensated by IPSDS. If a substitute cannot be found, the instructor should orchestrate a Forum within a set timeframe (e.g., over a few days). Only under emergency (last minute) circumstances should a class meeting be cancelled. In the case of an emergency, please email students as soon as possible to notify them of the change. Please also email your IPSDS contact person.

During the weekly online meetings, the Instructor will answer student questions, review past and upcoming homework, present supplemental material, and encourage discussion on the current topic. The Instructor may also use this time to administer quizzes, in-class exercises, or group work or use this time to address problems with the assignments. Instructors should not

attempt to reteach the lecture material in its entirety. If students do not have questions, the Instructor is responsible to stimulate discussion and is therefore advised to develop discussion questions prior to the meeting.

To address any technical issues early, Instructors are expected to log into each weekly online meeting 10 - 15 minutes before the scheduled meeting time. This will provide enough time to deal with technical and connection problems. This is particularly important when conducting a meeting from a new location (or different internet connection).

Time between weekly meetings

Between online meetings, the Instructor should be accessible to students via email and respond in a timely manner. We encourage the Instructor to use the course website for student communication: both messaging to individual students as well as posting to a forum or announcement section so that information is visible to the entire class. The Instructor should require students to submit questions using the Forum feature before the weekly sessions to encourage discussion in the weekly meeting.

B5. Feedback and Grading

Feedback

It is the Instructor's responsibility to give descriptive feedback and grade all work submitted by students as part of the course. This includes assignments, quizzes, individual or group projects, exams, and papers. Descriptive feedback includes not only the correct answer but details as to how that answer could be derived, explanations of elements that receive partial credit, and comments on common incorrect answers.

All feedback should be administered through the Canvas course page using: the comment function for assignments programmed into Canvas, universal feedback included in Canvas's auto grading function, or comments embedded in a PDF or Word document uploaded back to the students' accounts. If the Instructor prefers to release an answer key (either in document or video form[1]) this is an option, especially for statistical or programming assignments. Feedback should be given **no later than 7 calendar days** after the submission deadline of an assignment or exam.

To understand student comprehension of the material, some instructors find weekly quizzes to be helpful. These are short 3 -5 question quizzes programmed into the Canvas course website that can be administered before or at the start of the weekly class meeting. The instructor should design the quizzes so that all questions are automatically graded and students and the instructor can see the results immediately. Automatic feedback can be programmed into the quiz for each question allowing for explanations of the solution.

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[1] A caution: This type of feedback can be downloaded, saved, and circulated. In this case, Instructors must create original assignments each new term.

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Graders

If 22 students or more across both sections of the course are enrolled by 3 weeks before the first class meeting, the instructor will be given a grader to help with grading assignments and exams. The Instructor may refuse the offer of a grader.

If accepted, the Instructor must provide the grader with a clear answer key with point values (gained and lost) for each question. Even if a grader is provided for the course, the Instructor needs to check the feedback that the grader gives on assignments before releasing the feedback to the students. The Instructor is ultimately responsible for the grader and the feedback provided to students. It is the responsibility of the Instructor, not the grader, to answer and moderate questions on the Forum and answer student questions.

Assigning grades

At the end of the course, the Instructor will calculate a final letter grade (A, B, C, etc. with the + and - designations) based on the criteria specified in the syllabus. IPSDS does not have set ranges for the letter grades. A common distribution is:

A+   100 - 97
A   96 - 93
A-   92 - 90
B+   89 - 87
B   86 - 83
B-   82 - 80
Etc.

However, it is at the Instructor's discretion to adjust (or "curve") the range in order to fairly describe the distribution. For example, if most of the students will receive C's, the grades should be curved to reflect mostly A's and B's.

As noted in the syllabus template, the final grade is comprised of several components (minimally: class participation, homework assignments, and final project or exam). These are "weighted" according to their contribution to the final grade. An example allocation of these three components may be: 60% homework, 30% final exam, and 10% class participation. In this situation, the total point contribution for each of these should reflect the percentages.

Evaluating class participation is at the Instructor's discretion but it is recommended that some sort of fair system is developed to assign a grade for this element. Class participation credit can be given for questions submitted prior to the weekly meeting, comments made during the weekly discussion, and/or comments and questions posted to the Forum.

The Instructor will submit a list with students' names and their final course grades to the IPSDS coordinator who will provide them to the correct authority.

Final grades must be compiled and submitted to the IPSDS coordinator **within 2 weeks of the completion of the final exam or project/end of the course.**

As grades may not appear on a transcript for some time, the Instructor is encouraged to individually email students their grades once they are available. Alternately, they can be posted in Canvas by creating a new column in the grade sheet.

B6. Technical support

IPSDS will provide technical support for Canvas, the platform for the course website. A contact person will be provided for technical difficulties with online meetings or Canvas. If the Instructor is using additional software (statistical or otherwise) in their course for homework assignments or communication, IPSDS cannot provide support. It is the Instructor's responsibility to troubleshoot and support the software for the students.

B7. Course Cancellation

If a minimal student enrollment of 5 students per section (2 sections offered) is not met by 3 weeks before the first meeting of the course, the course could be cancelled. In this situation, the Instructor and IPSDS have the option of working together to devise a strategy to successfully fill the course roster quickly or to reschedule the course for a better time.