B91WF: Brewing Assignment

# Brewing Assignment Aims

The assignment will introduce analytical and observational data collected during wort production, fermentation and sensory profiling for the production of an American Wheat Beer. The aim of this assignment is to consider, using the data, how wort production and fermentation can influence final beer quality and how the brewer can control these processes to control final beer quality.

Brewing Assignment Learning Outcomes

Develop a detailed understanding of the science and technology of the brewing processes and operations, from wort boiling through to the end of primary fermentation.

Interpret brewhouse and fermentation data, discussing their significance, draw conclusions and argue their implications for the industrial process.

Write a brewing report developing skills for writing academic papers and professional reports.

Assignment Enquiries

If you have questions with regards to this assignment, please contact Rachel Sutherland [r.sutherland@hw.ac.uk](mailto:r.sutherland@hw.ac.uk) in the first instance.

We welcome constructive feedback on this course. Please let us know if you think something

works well or could be improved or any other feedback during the course feedback survey later this semester.

Assignment

Required parts:

1. Evidence of Own Writing

Your submission must be in your own words; this will be assessed via the software on Turnitin. Your writing will be of an appropriate scientific writing style and will be within 10% of the designated word count. References of an appropriate quality should be used and cited in the Harvard style. Your assignment will be submitted on the supplied template as a word document. There are two submission portals. One is for your main assignment, this must be submitted as word document. All files should be named as follows: surname. first initial Assignment ID Date (DDMMYY) e.g. Sutherland. R Brewery Assignment 011120. Your fermentation profile has a separate portal; this must be submitted as an .xls document and using the same naming convention.

2. Fermentation Profile

Using the fermentation data provided; produce a line graph to display the analytical data for your fermentation against time in hours. The data and calculated fields, along with the chart should be included in your final assignment. Summarise the information from this graph in bullet points. Your file to show your calculations and how your chart was generated should be submitted as a separate excel file to the main body of this assignment.

3. Wort Boiling Evaluation

Using appropriate diagrams; considering the aims of wort boiling select two commercially available pieces of wort boiling equipment to compare and contrast. How they best meet these aims? What are the advantages and challenges of each? You should utilise a table to compare the two methods and complete this enquiry in seven hundred and fifty words.

4. Sensory Profiling

Your group has been provided with numerical profile data for one batch of the American Pale Ale brewed and packaged. You have also been provided with the base data for three other batches of beer and a control beer.

Using the base data for the ten panellists summarise this data to produce average scores and standard deviations for the seven profile terms for the four beers; you have been provided with the numerical profile for the control brew. Using the average scores for the profile terms; produce an overlaid radar graph for the beers including the control. A table should be included to show the average scores for each sensory attribute with the standard deviation. Statistical analysis, such as an ANOVA, should be performed on this data to explore the differences. Briefly describe your findings in no more than two hundred and fifty words.

Beer sensory profiling can be defined as identifying or characterising a beer based on its sensory attributes rather than the beer style. In five hundred words, and using appropriate references, briefly introduce numerical and descriptive profiling and how these can be defined. Describe how these profiling systems can be used in quality management and marketing in the brewing and beverage industry.

5. Reflective Commentary

Using this document and the data provided reflect upon the aims of the brewing practical and if these were met. Does the data indicate issues or challenges during wort production or fermentation that have impacted the final beer quality? Are there any updates or changes you would make to the recipe, wort production or fermentation to produce a beer with a different flavour profile or final specification? The word count for this section is one thousand words.

# Marks Scheme

All portfolios will be marked out of 100, the distribution of marks is given below.

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| --- | --- | --- |
| Part | Overview | Marks Available |
| 1 | Evidence of own writing, use of references where appropriate. | 10 |
| 2 | Fermentation profile | 10 |
| 3 | Wort boiling evaluation | 20 |
| 4 | Sensory profiling | 30 |
| 5 | Reflective commentary | 30 |
|  |  | 100 |

Assessment Submission

Only work submitted to the Grade Centre on the Vision course via Turnitin will be marked. The assignment due date and time is detailed in the Key Dates and Brewery Assignment folder on the B91WF Vision Page.

Submission boxes for assessments can be found in the menu item titled Assignment Portals. Be aware of when the submission deadline is (after that time, submissions will be closed, and it will not be possible to upload your work). Please note that the Heriot Watt late submission policy will apply. For coursework up to five days late, a 30% penalty will apply. Any submissions over five days late will not be assessed and no feedback will be provided.

If you have any mitigating circumstances which may have impacted on completing the coursework, please refer to the university mitigating circumstances policy. Mitigating circumstances should be applied for as soon as possible after the events under consideration occur – and normally within five working days for on-campus students.

The marking turnaround time is normally 3 working weeks from the submission deadline and return dates for each semester are published as part of the programme timetable in the Key Dates folder in Vision. After this time you will receive your individual mark and feedback commentary. General feedback on the assignment will be posted on the VLE for this course.

Late submission is only acceptable when a medical certificate can be provided, or when mitigating circumstances have been confirmed and approved in advance. There are no extensions given for coursework assignments.

More information is available online here <https://www.hw.ac.uk/uk/students/doc/mc-policy.pdf>

Good Academic Practice and Plagiarism: Academic Misconduct

In all academic writing referencing is essential. Citing sources is the key mechanism used to demonstrate the quality of arguments and evidence. It also allows you to demonstrate that you are not stealing other people's work. Taking other people’s work and implying it is yours by not citing it correctly is plagiarism.

Plagiarism is a serious academic offence. The library has information on how and where to cite.

You will be given instruction on the formatting of referencing during the course. The library

also runs several useful sessions on academic practice and plagiarism; details are available online here <http://www.hw.ac.uk/is/skills-development/power-hours.htm>.

All submissions for B91WF must be conceptually your own work and written in your own words. To pass off as your own, ideas or text taken directly from others without acknowledgement is intellectually dishonest. Before marking, all B91WF submissions are checked for similarity, using the University’s Turnitin software as a tool to check for plagiarism against any published work or any submission made to the university. Plagiarism is academic misconduct and all suspected cases investigated and may be referred to the University. Further information can be found in the [University's policy.](https://www.hw.ac.uk/uk/students/studies/examinations/plagiarism.htm)