Case 1

For the plan found under Course 1, please indicate if you would approve the following. All responses are anonymous.

1. Contours

   - ◯ Yes
   - ◯ No

2. Beams arrangements/fields

   - ◯ Yes
   - ◯ No

3. Coverage

   - ◯ Yes
   - ◯ No

4. Heterogeneity/hotspots

   - ◯ Yes
   - ◯ No

5. OAR doses

   - ◯ Yes
   - ◯ No

6. Dose delivered as prescribed

- ◯ Yes
- ◯ No

7. Would you accept this plan?

- ◯ Yes
- ◯ No

8. If you answered "No" to any of the above or note any other issues with the plan, please explain below:

Case 2

Please answer the following. All responses are anonymous.

1. Please describe the differences in these plans found under Course 2 as well as the potential pros/cons of the different plans

Case 3

Please answer the following question regarding the plans found under Course 3. All responses are anonymous.

1. Please indicate which of the two plans you would approve and why.

2. Please indicate some techniques you could suggest to dosimetry to improve the plan you did not choose.

Answer Key:

Case 1

1. No
2. Yes
3. Yes
4. Yes
5. No
6. Yes
7. No
8. The optic nerves and chiasm are contoured in the incorrect location due to misregistration of the MRI to the planning CT. Thus, the optic structures appear to meet the constraint of maximum dose of 54 Gy when viewed only on the dose volume histogram. However, upon evaluation of the contours and dose overlay one sees that the contours are incorrect and that the optic nerves are receiving greater than 60 Gy.

Case 2

1. The two plans have different beam arrangements. Plan 2 uses non-coplanar arcs and Plan 3 uses coplanar arcs. Plan 3 created using coplanar arcs has more conformality in the superior-inferior direction with more low-dose spill to the surrounding normal brain and OARs radially. Plan 2 created using non-coplanar arcs is more conformal radially, however has more low-dose spill in the cranial-caudal direction. Depending on the clinical scenario and plan objectives, one beam arrangement may be more advantageous.

Case 3

1. Plan 5 would be approved. This is because Plan 5 has better target coverage, 96.1% of the PTV receiving 100% of the prescription dose, and acceptable optic nerve and chiasm doses.
2. Would suggest to that dosimetry create a PTV optimization structure which could exclude the dose limiting OARs, the optic structures, with a small margin. This could be used in addition to the true PTVs for planning.