Examination Feedback for EEE6420 – Satellite & Optical Communications
Autumn Semester 2013-14

Feedback for EEE6420 Session: 2013-2014

Feedback: Please write simple statements about how well students addressed the exam paper in general and each individual question in particular including common problems/mistakes and areas of concern in the boxes provided below. Increase row height if necessary.

General Comments:

Overall the paper was well answered. Questions 1 and 2 had the highest averages, Q3/4 lower averages by 5-8%.
The number of answers was fairly evenly spread across the four questions.
However students should read around the subject so that they can provide comprehensive answers to the bookwork parts of the questions. Although the lecture notes are adequate students with more background knowledge give better answers that they put in context.
Students should make sure they go through all the tutorial sheets and the examples given in lectures so that they gain high marks in the problem solving parts of the questions.

Question 1:

a. Generally well answered but antenna noise temperature was not well understood.
b. Multiple access was understood by everyone and the question only asked for an outline. To get full marks. Students answered with FDMA and TDMA, CDMA few attempted.
c. This part of the exam was a standard carrier to noise ratio calculation. However students lost marks in converting the values into dBs and conversely back from dB to ratios. Students should practice this sort of problem, it is strongly emphasized in the lectures.

Question 2:

a. Most students answered this part well.
b. Well answered.
c. Marks lost on this part because students did not recognize that the solution was achieved via the definition of carrier to noise ratios given in the question – rather than using the Friis equation directly.

Question 3:

a. Well answered but some students did not know the difference between stimulated and spontaneous emission.
b. Students lost marks in this part as they did not demonstrate that they had derived the total loss rather than remembered it and written it down.
c. Well answered.

Question 4:

a. Most students knew this section and gained good marks.
b. Marks lost here as students were not sure about the relative magnitudes of chromatic and intermodal dispersion.
c. Marks lost due to: forgetting to multiply the photon energy by the frequency; the upgrade path.