

**ECE571: Advanced Microprocessor Design – Homework 11**  
Fall 2020

**Due: Friday 4 December 2020, 12:00pm**

Create a document that contains the answers to the questions below. A .pdf or .txt file is preferred but I can accept MS Office or Libreoffice format if necessary.

1. Read the following article:

- **NVIDIA Announces the GeForce RTX 30 Series: Ampere For Gaming, Starting With RTX 3080 & RTX 3090** by Ryan Smith

<https://www.anandtech.com/show/16057/nvidia-announces-the-geforce-rtx-30-series-ampere-for-gaming-starting-with-rtx-3080-rtx-3090>

- Answer the following questions:

- (a) What is the DirectStorage API?
- (b) What process technology is used (how many nm)?
- (c) What is the NVDEC used for?

2. Also read this NVIDIA Developer Blog Post:

- **NVIDIA Ampere Architecture In-Depth** by Krashinsky, Giroux, Jones, Stam and Ramaswamy, 14 May 2020

<https://developer.nvidia.com/blog/nvidia-ampere-architecture-in-depth/>

- Answer the following questions:

- (a) What is a MIG (Multi-Instance GPU)?
- (b) What is asynchronous copy?
- (c) This is not in the article, but can you buy a board with an A100 in it? How much would it cost?

3. Submitting your work.

- Create the document containing the answers to the questions asked.
- Please make sure your name appears in the document.
- e-mail the file to me by the homework deadline.