

Biomedical Art and Visualization BFA Major
Laptop and Peripheral Recommendations 2024 – 2025

PC Computer with Windows 10OS or 11OS or higher (Home Edition or Business Professional/Enterprise)
+ External Hard Drive: 1TB or Higher

We do not use or normally prefer Macs due to the need for PC speed and 3D software efficiencies and game design engines) – PC Machines are also more affordable for the power per cost. We do have Mac labs on campus for elective studio courses in the Art Department.

FACTORS FOR SELECTING A QUALITY PC LAPTOP FOR INTENSIVE GRAPHICS CREATION:

Processor (CPU)

- **High Performance CPU:** Look for Intel Core i7 or i9 (10th generation or newer) or AMD Ryzen 7 or 9 (4000 series or newer).
- **Number of Cores:** At least 6-8 cores for multitasking and handling complex tasks.
- **Clock Speed:** Higher base and boost clock speeds (3.0 GHz base, 4.0 GHz boost or higher) for faster processing.

Graphics Card (GPU)

- **Dedicated GPU:** Essential for 3D rendering and graphics-intensive applications.
- **NVIDIA GeForce RTX Series:** RTX 3060, 3070, 3080, 4060, 4070, 4080 or newer. AMD Radeon RX 6000 series as an alternative.
- **VRAM:** Minimum of 6 GB, preferably 8 GB or more for handling large textures and complex scenes.

Memory (RAM)

- **Capacity:** At least 16 GB, preferably 32 GB or more for smoother multitasking and better performance in heavy applications.
- **Speed:** Higher speed RAM (e.g., DDR4 3200 MHz or higher) can improve performance.

Storage

- **Solid State Drive (SSD):** Essential for fast boot times and quick loading of applications and files.
- **Capacity:** Minimum of 512 GB, ideally 1 TB or more. Consider additional storage options if needed.
- **NVMe SSD:** Faster than traditional SATA SSDs, ideal for large file transfers and loading times.

Display

- **Resolution:** Minimum Full HD (1920x1080), preferably QHD (2560x1440) or 4K (3840x2160) for detailed visuals. 17" preferred screen size, but 15.4" is most common.
- **Refresh Rate:** Higher refresh rates (120 Hz, 144 Hz, or more) can provide smoother visuals, especially beneficial for gaming.
- **Color Accuracy:** Look for displays with high color accuracy (e.g., 100% sRGB or Adobe RGB coverage) for precise graphics work.

Cooling System

- **Efficient Cooling:** Good cooling solutions are crucial to maintain performance and prevent thermal throttling during intensive tasks.
- **Multiple Fans and Heat Pipes:** Ensure the laptop has an advanced cooling system with multiple fans and heat pipes.

Ports and Connectivity

- **USB Ports:** Multiple USB 3.0/3.1 ports for peripherals.
- **Thunderbolt 3/4:** For high-speed data transfer and connecting external GPUs or monitors.
- **HDMI/DisplayPort:** For connecting external displays.
- **Ethernet Port:** For stable internet connection, essential for online collaboration and large file transfers.

Battery Life

- **Consider Usage:** Battery life is typically shorter on high-performance laptops, but aim for a balance between performance and battery life.

Build Quality and Portability

- **Durability:** A robust build quality to withstand the rigors of daily use.
- **Weight and Size:** While performance is key, consider the portability of the laptop if you need to work on the go.

Additional Features

- **Keyboard:** Comfortable and responsive keyboard with good key travel.
- **Touchpad:** Precise and smooth touchpad for easier navigation.
- **Audio Quality:** Good speakers and sound system for multimedia work.
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By considering these factors, you can choose a PC gaming laptop that will not only handle high-end design, illustration but also excel in 3D modeling, game design, and other graphics-intensive tasks.

RECOMMENDED BRAND:

MSI Gaming Laptop (there are several levels per your budget; see EXAMPLE specification recommendations below – note, you may purchase a higher level OR newer version; technology changes quickly) This is a suggested series of specs below

MSI Store to locate similar specs and cost for your budget: <https://us-store.msi.com/Laptops/Gaming-Series?page=1>

Recommended MSI Series:

Alpha 17C7VG-007 17.3" QHD Gaming Laptop

<https://us-store.msi.com/Laptops/Gaming-Series/Alpha-17-C7VG-007>

Alpha 17C7VG-008 17.3" QHD Gaming Laptop

<https://us-store.msi.com/Laptops/Gaming-Series/Alpha-17-C7VG-008>

Crosshair 16 HX Monster Hunter Edition QHD Gaming Laptop

<https://us-store.msi.com/Laptops/Gaming-Series/Crosshair-16-HX-MONSTER>

Katana 15 B13VFK-1264 15.6" FHD Gaming Laptop

<https://us-store.msi.com/Laptops/Gaming-Series/Katana-15-B13VFK-1264>

Vector GP68HX 13VH-054US 16" FHD Gaming Laptop

<https://us-store.msi.com/Laptops/Gaming-Series/Vector-GP68HX-13VH-054>

Stealth 15 A13VF-038US 15.6" FHD Gaming Laptop

<https://us-store.msi.com/Laptops/Gaming-Series/Stealth-15-A13VF-038US>

Stealth 16 AI Studio A1VGG-036US 16" QHD Gaming Laptop

<https://us-store.msi.com/Laptops/Gaming-Series/Stealth-16-AI-Studio-A1VGG-036US>

FINAL CONSIDERATIONS

- **Longevity:** Aim for a laptop that will last at least 4 years.
- **Key Considerations:**
 1. **Processor:** Opt for a high-performance CPU, such as Intel Core i7/i9 or better.
 2. **Memory (RAM):** Ensure you have sufficient RAM, ideally 16 GB or more.
 3. **Graphics Card:** Preferably an NVIDIA Quadro or a high-end NVIDIA GeForce RTX series.
- **Storage:** If your laptop's internal storage is limited, you can use Rowan Google Apps for cloud storage or purchase an external USB hard drive with at least 1TB capacity for additional space.
- **Screen Size:** A larger screen, such as 17 inches, is beneficial for viewing your artwork and managing multiple graphics programs more comfortably.
- **Additional Accessories:** Many students find it useful to have an extra keyboard, mouse, and a second monitor for their workspace in apartments, dorm rooms, or at home. This setup can enhance productivity and comfort.
 1. Purchase an External USB Hard Drive for File Storage, Backup and Travel
 2. Purchase a Wacom portable drawing tablet -- we can discuss in class before you buy.

For questions and help, please contact:

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