Student Computing Services (SCS) is one of the major components of IT & Digital Library Services, the division of the Marriott Library that provides technology support to students, faculty, staff, and visiting patrons. One of the primary missions of SCS is to provide technology support and assistance in the Knowledge Commons, which is one of the most popular places on the University of Utah campus with over 287,000 system log ins last year. SCS employees are scheduled to staff both desks in the Knowledge Commons and are responsible for assisting patrons with a variety of questions and/or problems, ranging from printing to rendering video with programs such as Final Cut Pro.

By working with the Mac and PC technical groups who are responsible for the installation, maintenance, and upgrading of the Library’s computers and software, the SCS team is able to provide a high level of technology service to patrons. Full time Library technical staff will often work with students and faculty on complex issues.

SCS employees are also heavily involved in Library operations and services outside of the Knowledge Commons. SCS staff are asked to assist with the creation of presentations for staff and faculty, serve on various committees, teach technology classes for the Library Workshops program plus providing technology support for various SCS projects. As employees gain technology skills from working at the Knowledge Commons they are asked to assist with a variety of projects within SCS and the Library. Many SCS employees go on to become hourly supervisors at the Knowledge Commons and then on to full time technology positions within SCS and the Library. Many SCS employees also go on to become supervisors at the Knowledge Commons and then on to full time technology positions within SCS and the Library.

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**SCS Services**

**Technology Assistance:** SCS staff are trained to answer a wide variety of questions regarding computer hardware and software applications. SCS staff can assist with printing, video editing, saving documents in various formats, image editing, accessing materials, MS Office Suite, Adobe CC applications, and many other technology issues. Depending upon the staff members on duty at the time, it is also possible that there will be higher level support for multimedia creation, statistics, programming, and for advanced features of many applications. The SCS staff can also request help from the technical groups for complex issues.

**Research Assistance:** Although the SCS staff are not as highly trained in the area of reference or research assistance as librarians, the staff members are still expected to be able to assist patrons in this area. SCS staff are trained to be able to locate materials in the catalog, access electronic journals or databases, and answer basic questions about the Library’s collections. If the research or reference question is beyond the skills of the SCS staff the patron will be directed to a librarian or if none are present, given the contact information for the librarian who specializes in that subject area.

**Wireless/Mobile Device Set-Up:** SCS staff are trained to assist patrons in setting up their wireless connections for use with laptops and/or mobile devices, including UMail configuration. Several SCS staff members are also trained in advanced troubleshooting for complex issues in this area.

**3D Printing:** This is the newest service where students can pay to have their 3D models printed by the SCS staff, who also offers consultation services on a limited basis. At this time there are three 3D printers assigned to this service and there are two additional 3D printers available in the Knowledge Commons that can be used by students for free. SCS runs a series of Creative Spaces workshops on Fridays during the Spring and Fall semesters where students are encouraged to try the various 3D printing and scanning technologies.

**Laptop/iPad Checkout:** SCS currently has 10 iPads, 10 Nexus 7 tablets, two Chromebooks, and 15 laptops (soon to be 27) available for checkout to students. Students are able to check these out for up to four hours to use for classes, projects, study, or general use.

**OSL & ACS/CIS Support:** SCS is the in person support desk for the Office of Software Licensing and is available to assist students with their passwords as well as their accounts.

**Large Format Printing:** SCS offers a highly successful service for students and faculty for large format printing. The HP T2300 is used heavily for student presentation posters as well as class projects. SCS printed over 1,000 posters for students last year.

**Hardware Checkout:** SCS has a large number of cables, power adapters, microphones, external drives, projectors, graphics tablets/pens, and much more that are available for checkout at the SCS desk. There are also laptops, Cintiq tablets, and additional equipment that can be checked out by students.

**Classroom Support:** SCS is responsible for all of the classrooms, meeting rooms, and computer labs in the Marriott Library. The Media & Classroom group along with the Library ITS technical groups install and maintain most of the equipment used in the various rooms. SCS staff are available for troubleshooting problems in the rooms as well as training faculty and staff in their use. We are also actively involved with TLT/IMS on designing and deploying new classroom technologies.

**Faculty Assistance:** SCS staff are available to assist faculty with a variety of services, ranging from installing software in a specific lab for a semester class to digitizing media that will be streamed for use by students. SCS staff are available for consultations and serve on a number of committees that are designed to improve outreach to faculty.
Usage Statistics

In the last year...

- 362,868 log ins
  - 287,596 in Marriott Library
  - 46,374 in Union
  - 28,898 in Residence Halls
- 75,000+ interactions at the two service desks in the Knowledge Commons
- 5,000+ laptops checked out
- 1,000+ mobile devices configured
- 1,000+ large format posters printed
- 27,000+ hardware items (chargers, cables, tools, etc.) were checked out
- 400+ 3D printing jobs submitted
- 500+ UNID passwords changed
- 1.5 million+ pages printed
- Thousands of students helped with software questions that covered MS Office applications, the Adobe Creative Cloud suite, media editing, statistics packages, 3D modeling, and more.

PC Log-ins by Major

<table>
<thead>
<tr>
<th>Rank</th>
<th>Major</th>
<th>Log-ins</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Business Admin BS</td>
<td>7840</td>
</tr>
<tr>
<td>2</td>
<td>Pre-Business BS</td>
<td>6193</td>
</tr>
<tr>
<td>3</td>
<td>Biology BS</td>
<td>5579</td>
</tr>
<tr>
<td>4</td>
<td>ESS BS</td>
<td>5287</td>
</tr>
<tr>
<td>5</td>
<td>Economics BS</td>
<td>3792</td>
</tr>
<tr>
<td>6</td>
<td>Undeclared</td>
<td>3781</td>
</tr>
<tr>
<td>7</td>
<td>Pre-Comp. Science BS</td>
<td>3149</td>
</tr>
<tr>
<td>8</td>
<td>Accounting BS</td>
<td>2982</td>
</tr>
<tr>
<td>9</td>
<td>Finance BS</td>
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<tr>
<td>10</td>
<td>Chemistry BS</td>
<td>2846</td>
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<tr>
<td>11</td>
<td>Film &amp; Media Arts BA</td>
<td>2706</td>
</tr>
<tr>
<td>12</td>
<td>Parks, Recreation</td>
<td>2627</td>
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<tr>
<td>13</td>
<td>Mathematics BS</td>
<td>2537</td>
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<tr>
<td>14</td>
<td>Physics BS</td>
<td>2456</td>
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<tr>
<td>15</td>
<td>Health Promotion</td>
<td>2313</td>
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</table>

Mac Log-ins by Major

<table>
<thead>
<tr>
<th>Rank</th>
<th>Major</th>
<th>Log-ins</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>2</td>
<td>Pre-Business BS</td>
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<tr>
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<tr>
<td>5</td>
<td>Biology BS</td>
<td>8269</td>
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<tr>
<td>6</td>
<td>Art BFA</td>
<td>5694</td>
</tr>
<tr>
<td>7</td>
<td>English BA</td>
<td>5133</td>
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<tr>
<td>8</td>
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<tr>
<td>9</td>
<td>Economics BS</td>
<td>4348</td>
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<tr>
<td>10</td>
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<td>4263</td>
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<tr>
<td>13</td>
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<tr>
<td>14</td>
<td>Psychology BS</td>
<td>3732</td>
</tr>
<tr>
<td>15</td>
<td>Intl Studies BA</td>
<td>3708</td>
</tr>
</tbody>
</table>

Helping Students & Campus Efforts

SCS full time staff and hourly student workers provide the following services for students:

- UNID password support
- Wireless set up for mobile devices
- UMail configuration and basic help
- Support for OSL products that includes downloading, installation, and troubleshooting
- In person support for Campus Help Desk issues
- Assists international student groups with orientation
- 3D printing consultations, instruction, and support.
- Reference and research assistance
- Software assistance ranging from MS Office to advanced features in Final Cut Pro.
- Tours, workshops, and support for K-12 groups.
Current SCS Projects

Remote Software Access (Terminal Services/Virtualization)

UIT has funded the Marriott Library/SCS for the past four years to begin testing wide scale deployment of terminal or virtualization services. Through this funding the Remote Software Access project was developed, which uses Aqua Connect for desktops and mobile devices. This service allows 24/7 access by students to over 160 software applications from on or off campus. At this time the service allows for up to 100 users. This service allows students to access specialized software packages from any location so that they do not have to physically go to specific computer labs to use programs such as Lightwright, Vectorworks, XCode, and many others.

Laptop Checkout & Chromebooks

Laptop checkout has proven to be one of our most popular services, with over 5,000 checkouts in 2014. Another 12 laptops will be added to the 15 currently in the checkout pool this summer. SCS is also exploring Chromebooks for checkout by testing various imaging methods, support resources, and variable checkout times. It is hoped that with additional funding for systems and staffing that this service could offer students 24 hour to 7 day checkout in the future.

Classroom Upgrades

1735 and 1745 were the first two classrooms/labs to receive major upgrades in terms of LCD flat screens replacing projectors, new switchers, and unified campus control panels. The 1715 and 1725 upgrades were also just recently completed. This work is being funded by the Marriott Library along with the Teaching & Learning Portfolio to improve facilities for student learning. SCS and TLT/IMS are working together on the equipment purchases, installation, and testing in these rooms.

3D Printing & Scanning

The Marriott Library has two 3D printers available for use in the Knowledge Commons for students along with a Nextengine 3D scanner. There is also a pay for print 3D service with three additional 3D printers in the SCS suite. This service allows students and faculty to have consultations about their 3D projects, a variety of options on how they are printed, and staff assistance during the printing process through completion.

3D Printing Partnerships

In the last year the SCS staff has partnered with several departments on multiple projects. These included scanning and printing dinosaur fossils for the Natural History Museum of Utah for their K-12 outreach program, art sculptures for an upcoming exhibit in the Fine Arts Museum of Utah. The Fine Arts & Architecture Greenplex Project, and prosthetic molds for the Huntsman Cancer Institute. SCS staff has also worked with various students and faculty members on various projects, class assignments, and exhibits that have involved 3D scanning, modeling, and printing.

Live Streaming

Over the last few years there have been a large number of requests for SCS to stream live events in the Library or associated with the Library’s mission. New equipment has been deployed and several SCS staff members have been trained in filming/editing live events. The increased workload and number of requests mean that additional resources will need to be channeled into this effort to continue and improve this service.
Marriott Library Student Computing Labs

**Union**
92 PCs, 34 Macs, 2 ADA systems, 4 scanners, 2 B&W printers, and 1 color printer.

Located directly below the food court in the Union Building, this is one of the most popular computer labs on campus. It has a very different atmosphere than other labs on campus with a faster pace and more traffic.

**Benchmark**
24 PCs, 18 Macs, 1 ADA system, 2 scanners, 1 B&W printer, and 1 color printer.

Located in the Residence Halls area in Upper Campus, the Benchmark lab is popular for after hours and weekend use. The lab gives students a quiet area to work on projects, homework, or for just surfing.

**Knowledge Commons**
250+ PCs and Macs, 4 ADA systems, 9 scanners, 5 B&W printers, and 1 color printer.

The most widely used computer lab on campus. The Knowledge Commons features a fully staffed learning environment with over 300 software applications, video editing systems, hardware checkout, and more.

**Teaching Labs**
The Marriott Library manages seven teaching labs (4 Mac and 3 PC) that are used by a large number of classes each year. These systems feature the latest versions of various software applications that are used by faculty in teaching students such as ZBrush, ArcGIS, Maya, Rhino, Solidworks, and many more.
Knowledge Commons Layout

- **Presentaion Room**
- **Research Labs**
- **Study Room**
- **Center for Disability Services Room**
- **Macs**
  - 96 Macs with iLife, the Adobe CC suite, plus various graphical, audio, and video-editing applications.
- **Audio Visual Equipment**
  - DVD, CD, turntables, and monitors for patron use.
- **12 Study Rooms**
- **PCs**
  - 135 PCs with Windows 7 and Office 2013, plus a wide variety of web browsers, graphics programs, multimedia applications, and more.
- **Linux Systems**
  - 28 PCs with the Gentoo Linux image.
- **3D printers & scanner**
- **Academic Advising**
- **Printers**
  - Five B&W, one color, five 3D, and one specialty printer (HP T2300-located behind the SCS desk).

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**Hours**

**Fall/Spring Semesters**

- Mon-Thu. 7am-12:45am
- Friday 7am-9:45pm
- Saturday 9am-9:45pm
- Sunday 12pm-12:45am

**Scanners**

A variety of PC and Mac scanners for patron use.

**Fine Arts**

**Video Editing Systems**

- 20 Macs configured with 27” monitors and additional software.

**Knowledge Commons Main Desk**

**Presentation Room**

**Research Labs**

**SCS Desk**

**Check Out Equipment**

SCS has a large number of laptops, power adapters, cables, microphones, and more that are available for checkout.
Knowledge Commons Competencies & Training

SCS employees who serve in the Knowledge Commons must learn a wide variety of Library services and technology skills. Most of the SCS employees are student workers who serve 10-20 hours per week at the service desks, so an online training system (using Canvas) has been designed to enable them to progress by completing a series of online modules with quizzes that are designed to reinforce the learning material. As services and technology change the training material is updated.

SCS Desk Consultants & Hourly Supervisors-What They Do

Patron Services
- Assists students, faculty, and staff with basic technology related issues.
- Provides audio-visual and classroom support for faculty and student groups.
- Understands that Marriott Library staff have varied skills. Able to escalate complex problems following proper procedures. Aware of Knowledge Commons staff that have specialized skills and training.
- Assists students with password issues, and accessing CIS.
- Assists patrons with determining their hardware needs, checking out equipment, and assisting with set-up and/or installation.

Library Services
- Identifies the needs of the patron and directs patron to the appropriate location. [General information]
- Knowledge of Library departments and available services.
- Knowledge of Library operating hours, important phone numbers, and emergency procedures.
- Assists patrons with accessing electronic journals, databases, and course reserves.
- Assists patrons with locating items in the Catalog and with ARC and/or other requests.
- Provides basic research assistance.
- Understands how to use the University, Library, and Student Computing Labs web sites to assist patrons.

Technology Services
- Basic knowledge of Windows, Mac OS X, and Linux operating systems.
- Is able to work with USB drives, Firewire drives, CD-Rs, and DVDs for both storage and access.
- Understands the multiple types of printing options that are available and how to configure the print settings in a variety of software applications.
- Provides basic support for remote access to Library services.
- Provides wireless support for patrons’ laptops and mobile devices.
- Can use the trouble reporting forms to direct problems to the technical groups.
- Provides technology support for staff and public area systems.
- Provides technical support for patrons referred from the Campus Help Desk.

Current Modules
- Websites and Basics
- Computers and Printing
- Classrooms and Study Rooms
- Library Collections
- Using Research Databases
- Copying and Scanning
- MS Office (Word, Powerpoint, and Excel)
- Final Cut Pro (video editing basics)
- Outer Labs
- Supervisor Duties

Hourly Supervisors
- Hourly supervisors for the Knowledge Commons are selected from the most experienced and knowledgeable consultants. The average hourly supervisor will have served at least a year as a consultant, possesses strong technical skills, has extensive knowledge of the Library’s services, and uses their experience as both a student and library employee to assist users in most services available at the Knowledge Commons.
Student Computing Services Organization

Harish Maringanti
Associate Dean, IT & Digital Library Services

Matt Irsik
Interim Head, User Support & Computer Services

Devin Donaldson
Interim SCS Dept. Head

PC/MAC Technical Group

User Services

User Services is responsible for staffing the two desks in the Knowledge Commons and providing front line technology support for students, faculty, and staff. User Services staff are trained to offer support for the classrooms, lab equipment/computers, basic research/reference services, wireless set-up for mobile devices, and much more. Full time staff assist with front line service, training student workers, and work on a variety of technology related projects for student/faculty services and the Library.

Dan Marsh
Night Supervisor/Programmer
6 Hourly Supervisors
30+ Student Workers serving in the Knowledge Commons and Outer Labs

Ron Shoger
Media Electronics Engineer
Angela Jones
Media & Classroom Specialist
1 Student Worker

Media & Classroom Services

The User Services supervisors are responsible for coordinating operations in the Knowledge Commons and Outer Labs areas. This includes hiring, scheduling, training, and evaluating hourly workers. These positions also coordinate efforts with the ITS technical groups to resolve problems as well as working with the Media & Classroom Services group to provide additional support. These supervisors are also well trained in providing reference, research, and collections assistance for patrons.

Media & Classroom Services assists students, staff, and faculty with requests involving the use of the large number of classrooms/labs in the Marriott Library. There are 14 classrooms and computer labs along with numerous smaller meeting rooms supported by this group. Media & Classroom Services also provides support for live streaming of Library events, classroom filming, media conversion, closed captioning, and more.

SCS User Services and the Media & Classroom Support offices are located on the SW corner of Level 2. The Mac and PC groups that support the Knowledge Commons and labs are located in the NW corner of Level 5.
ITDLS Support for Campus

The Marriott Library’s Information Technology & Digital Library Services (ITDLS) departments provide support for a number of campus services and IT operations.

KeyServer
Administrates a KeyServer software license server for various departments on campus such as CSBS, School of Business, College of Education, Eccles Library, College of Fine Arts, and the Marriott Library. This software provide asset management which includes software licensing, hardware, login information, and detailed statistics gathering.

Campus Mac Manager Meetings
The Marriott Library hosts the Mac Manager meetings, which includes coordinating/scheduling presentations or preparing presentations on various topics that impact management of Apple technology in enterprise environments.

Wowza Streaming Engine
This is a streaming service that provides access to live and archived audio & video for guests, students, staff and faculty on and off campus. This includes media used for campus classes, Marriott Library digital collections, plus live broadcasts for campus Mac Managers & IT Professional meetings.

iTunes U
There is a dedicated section of Apple's iTunes Music Store that features educational audio and video files from universities, museums and public media organizations, which includes the University of Utah. iTunes U provides academic course podcasts used by many groups such as Music, Biology, Utah Museum of Fine Arts, KUER 90.1, campus Mac Managers & IT Professionals, Emergency Medicine Residency, College of Engineering,UIT (Node 4), etc.

Campus Centralized Apple DEP & VPP
Provide technical support/knowledge for campus centralized Apple Device Enrollment Program (DEP) & Apple Volume Purchase Programs for iOS and OS X devices. This is a collaboration with UIT Software Licensing providing administration of the centralized service and our group providing technical support/training for campus groups. This service provides a 50% discount of available volume software and service to implement zero touch management of iOS and OS X devices saving campus money and staff time.

Adobe CC
Provided support/presentation on creating installers and distributing Adobe CC to others on campus, resulting in saving money in regards to staff time and support to campus.

Apple Enterprise Support
Provides support to the Library and campus in communicating feature requests, bugs or security issues on Apple technology. For example, worked with College of Pharmacy in troubleshooting issue with Apple USB Ethernet adapter losing connectivity and a fix was made available in next OS release.

Mobile Device Management
Provide support for department of mobile devices such as iOS, Android, and ChromeBooks to students, staff and faculty. The Library has disseminated information to other IT groups on campus and provided training to help implement support for campus.

Wireless Printing
Developed and maintain a wireless printing installer for OS X that provides easy setup for supporting UniPrint printing on students personal OS X computers. Also, developed a solution to provide native printing on OS X & iOS, collaborating with multiple UIT groups and the developer of Printopia.

UIT Support
Provides Apple technology expertise to multiple UIT groups to troubleshoot and fix issues with setup for OS X clients. Have recently worked with ISO on iOS/OS X security issues, collaborated with the wireless group and Apple Enterprise support to troubleshoot issues with Apple TV use on campus, and assisted the Exchange group with development of OS X application/script to help ease the transition to a new server setup used by campus.

ITDLS also provides support for wireless, networking, classrooms, custom software installation, consultations with faculty, and checkout equipment used by students in the Marriott Library Student Computing Labs. ITDLS staff are also available to assist students with complex issues involving laptop setup, advanced software, and media editing. In the last year ITDLS worked with the following classes:

- Installed ZBrush, Quixel Suite, Minecraft Bukkit, Eclipse IDE, and Construct 2 for EAE 6900/EAE Summer Design Camp.
- Installed Maximo 3D, Fuse, and Unreal Engine for the Interactive Machina & Film 3710-3720 classes.
- Providing a licensing server to run PTC Creo for the Lassonde Center and for the Library systems.
- Purchased and installed Stata/MP2 for ESS 7970.
- Purchased and installed MATLAB Toolbox and Statistics Toolbox for AMOS 5020.
- Purchased and installed Media Composer for Fine Arts and Sibellius 7 for Music.
- ITDLS and SCS staff collaborated to help a large number of Business students to partition their hard drives for semester long classes, which involved hundreds of hours of consultations and technical assistance.
Marriott Library Classrooms & Teaching Labs

<table>
<thead>
<tr>
<th>Room</th>
<th>Description</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1003D</td>
<td>Conference room</td>
<td>10</td>
</tr>
<tr>
<td>1008</td>
<td>Mac lab</td>
<td>21</td>
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<tr>
<td>1009^1</td>
<td>PC lab</td>
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<tr>
<td>1110</td>
<td>Mac lab</td>
<td>45</td>
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<tr>
<td>1120^1</td>
<td>Mac lab</td>
<td>45</td>
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<tr>
<td>1130^2</td>
<td>Classroom</td>
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</tr>
<tr>
<td>1140</td>
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<td>1150^2</td>
<td>Classroom</td>
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<tr>
<td>1160</td>
<td>PC lab</td>
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<tr>
<td>1170</td>
<td>Classroom</td>
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<tr>
<td>1715^2</td>
<td>Classroom</td>
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</tr>
<tr>
<td>1725^2</td>
<td>Classroom</td>
<td>40</td>
</tr>
<tr>
<td>1735</td>
<td>PC lab</td>
<td>35</td>
</tr>
<tr>
<td>1745</td>
<td>Mac lab</td>
<td>35</td>
</tr>
<tr>
<td>2008 (Fine Arts)^2</td>
<td>Classroom with laptop cart</td>
<td>30</td>
</tr>
<tr>
<td>2103</td>
<td>Student presentation room</td>
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<tr>
<td>2105</td>
<td>Mac research lab</td>
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<tr>
<td>2130S</td>
<td>Student presentation room</td>
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</tr>
<tr>
<td>2130U</td>
<td>Student presentation room</td>
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</tr>
<tr>
<td>Frances C. Hoopes</td>
<td>Seminar room (not for semester-length classes)</td>
<td>20</td>
</tr>
<tr>
<td>Gould Auditorium</td>
<td>Auditorium</td>
<td>193</td>
</tr>
</tbody>
</table>

This is a current list of the Marriott Library’s classrooms and teaching labs. 1715, 1725, 1735, 1130, 1150, and 1160 have been designated as General use rooms by Campus.